water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Status Report on the 2015/17 Drought

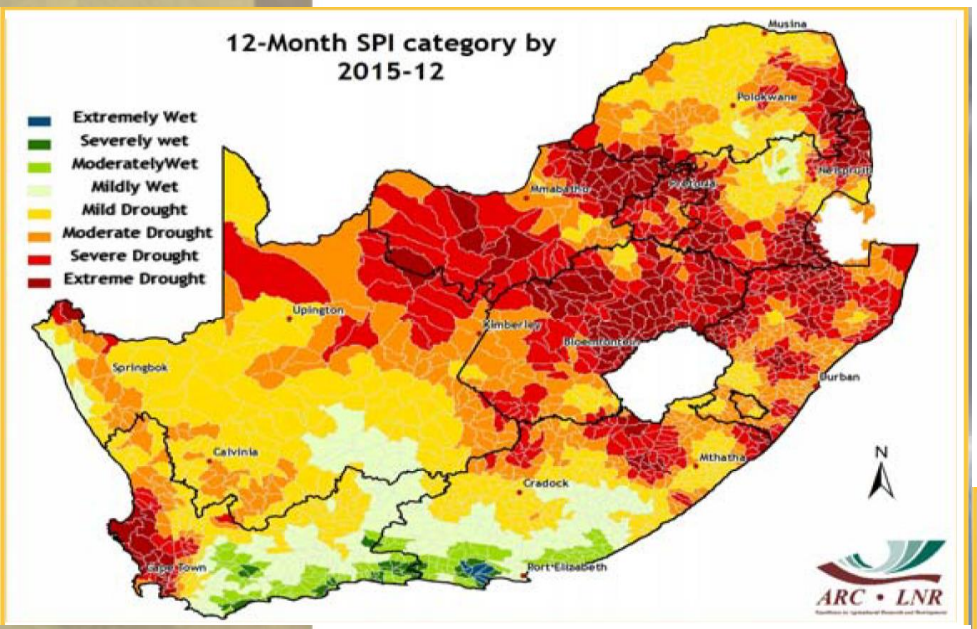
Portfolio Committee on Water and Sanitation
15 February 2017

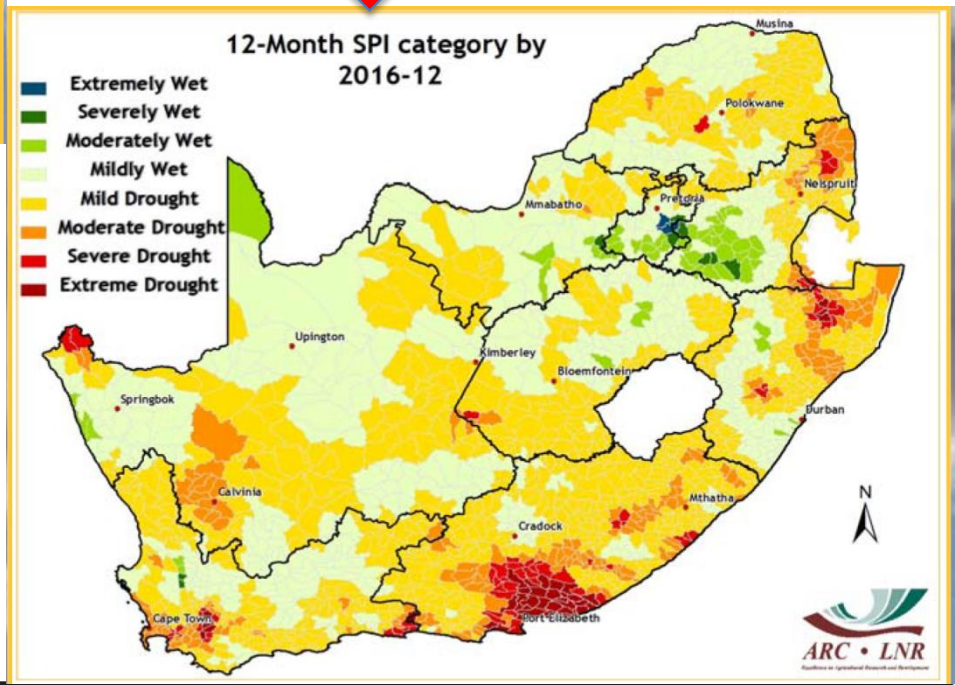
Date: Tuesday 15 February 2017

Notes for Presentation

- The ARC Umlindi report of 13 January 2017, based on the 12-month SPI: large parts of the country are still experiencing a mild drought, while small pockets of moderate, severe and extreme drought are still found. There is still a large area of severe to extreme drought in the southern part of the Eastern Cape and severe drought is also still found in the western part of Northern Cape, southern tip of Western Cape, eastern part of KZN, and eastern part of Mpumalanga.
- While we are seeing some recovery in veld conditions we are not seeing the equivalent recovery in our dam levels. The recent mid-summer rains have still not really made a significant impact, we therefore need to continue to intensify the enforcement of restrictions to stretch our available water supplies. The drought is far from over and even with a normal season it will take a number of years for the system to stabilize to an acceptable level.
- The Drought as far as water supplies are concerned is not over, current dam levels are lower than they were at the same time last year

12-month SPI for Dec 2015 vs Dec 2016





SAWS WEEKLY OUTLOOK

SAWS Weekly Outlook (Extract)

- SAWS Weekly Outlook: the 6 February report reflects that: ENSO (El Nino / La Nina) is expected to remain in a neutral state for the remainder of the summer and autumn;
- Forecasts for the remainder of the summer season is still likely to be above normal rainfall over most of the country, though with a much reduced likelihood; Good rain fell mostly over the central parts of the country;
- More showers and thundershowers expected over central and eastern interior during the next weeks;
- This could lead to more severe weather related hazards such as flooding, damaging winds; and The central-western and southern parts of the country still have a low likelihood of significant rain.
- This forecast is not very optimistic with regard to the possible recovery of our dams.
- While we have seen some slight improvements in dam levels with the national average increasing by 0.6%, there is still a very long road to recovery and we face the possibility of a difficult winter.

DROUGHT AND CURRENT STATUS OF OUR DAMS

Summary of Water in Storage per Province on 6 February 2017

Province	FSC in 10^6 m^3	Number of Dams per Province				% of full capacity		
		Total	≤10%	10% to 40%	≥100%	08/02/16 Last Year	30/01/17 Last Week	06/02/17 This Week
Eastern Cape	1 832	43	5	10	3	73,3	57,7	**56,9**
Free State	15 971	19	4	7	3	54,4	56,7	**57,2**
Gauteng	115	4	0	0	3	83,5	86,6	**86,7**
Kwazulu-Natal	4 669	18	0	5	2	52,7	47,0	**47,1**
Lesotho*	2 376	2	0	0	0	47,6	44,6	**46,7**
Limpopo	1 508	26	0	4	10	61,1	63,7	**66,1**
Mpumalanga	2 539	22	0	4	4	61,0	65,9	**67,8**
Northern Cape	146	5	1	0	2	63,6	93,7	**93,6**
North West	887	28	1	7	9	45,1	73,2	**73,8**
Swaziland*	338	1	0	0	0	34,6	41,4	**46,1**
Western Cape O	273	21	8	3	1	56,5	26,6	**26,2**
Western Cape W	1 598	22	0	6	2	43,0	39,9	**37,9**
Western Cape	1 870	43	8	9	3	45,0	37,9	**36,2**
Total	**32 247**	**211**	**19**	**46**	**39**	**54,9**	**55,0**	**55,6**

Overview of National Status of Dams at 6 February 2017 (1)

Item	10^6 m^3	30 Jan	6 Feb	Comments
National Storage	32 247	55,0%	55,6%	Overall now up by 0,6% Last year: **54,9 %**
Dams < 10%	680	17	19	2 more: Corana (EC) and Kamanassie (WC)
10% < Dams < 40%	7 431	44	46	2 more: Voëlvlei (WC) & Kouga (EC) now < 40%
Dams >100%	1 238	35	39	4 more: Grootdraai (MP), Misverstand (WC), Setumo (NW) & Koppies (FS) now >100%
Eastern and Western Cape are decreasing, other provinces plus Lesotho & Swaziland are improving.				
Vaal System: (see next +1 slide)	**10 565**	**64,7%**	**65,5%**	14 dams serving, amongst others, Gauteng, Sasol, and ESKOM. System was **59,8%** in 2016. 20% Irr achieved, U achieving overall 13,1%, 15% target
Orange River: Gariep Vanderkloof	**8 367** 5 196 3 171	**52,5%** 52,4% 52,6%	**52,9%** 53,6% 51,7%	System was **55,0%** last year this time. 15% irrigation mostly achieved, OFS Tunnel not complying. Power generation still continues
Polokwane:	**254**	**50,1%**	**52,2%**	2 dams, was **52,0%,** non-compliance with restrictions.
Crocodile West:	**450**	**98,1%**	**96,2%**	6 dams for Tshwane, Madibeng & Rustenburg. System was **74,1%** last year this time
Klipplaat	**57**	**54,8%**	**54,4%**	3 dams in the Beyers Naudé LM, Jansenville, Klipplaat & Waterford, was **83,1%** last year.
Luvuvhu	**225**	**77,5%**	**81,5%**	3 dams: Thohoyandou area, was **69,7%** last year.

Overview of National Status of Dams at 06 February 2017 (2)

Item	Cap in 10^6m^3	30 Jan	6 Feb	Comments (dams and systems below 40% in red)
Western Cape:	**889**	**38,5%**	**36,9%**	6 dams for the City of Cape Town, **45,0%** last year.
Voëlvlei	159	42,0%	39,8%	20% Urban not achieved
Berg River	127	47,8%	45,8%	30% for irrigation now being considered.
Theewaterskloof	479	33,6%	31,8%	Cape Town preparing for tighter restrictions to achieve 20% restriction on Urban use
Brandvlei	286	31,1%	28,9%	Compliance with Ir:40% restrictions.
Clanwilliam	122	50,4%	46,9%	
Kwaggaskloof	169	32,5%	32,5%	
Algoa System:	**282**	**53,4%**	**52,2%**	5 dams for Nelson Mandela Bay, **(90,1%)** restrictions on urban not achieved - overabstraction
Amatole System:	**241**	**72,4%**	**72,4%**	6 dams for Buffalo City **(92,9%)**
Umgeni System:	**923**	**48,7%**	**48,7%**	5 dams serving Ethekwini & Msunduzi
Inanda	237	60,8%	60,3%	System was **58,4%** last year this time
Midmar	235	58,9%	59,2%	D:15%, I:15%, Ir:50%. Achieving 67% of the 15% restriction target on urban.
Albert Falls	288	25,2%	24,7%	
Hazelmere	18	65,6%	64,2%	Restrictions temporary relaxed at Hazelmere Dam, level kept below 67% due to construction.
Pongolapoort	2 267	38,0%	38,0%	
Goedertrouw	301	26,8%	27,5%	D:40%, Ir:80%, In:15% restrictions achieved
Hluhluwe	26	22,2%	21,8%	D:20%, Ir:80%, In:20% restrictions achieved, rationing
Klipfontein	18	33,5%	35,0%	Restrictions not achieved, rationing imposed
Bloemfontein:	**223**	**37,9%**	**37,9%**	4 dams serving Mangaung, was **30,3%** last year
				67% compliance to the D:30% restriction

INTERVENTION BY RESTRICTIONS

Intervention by restrictions

- Restrictions are used on systems facing deficits to prolong the water supply during periods of water shortage.
- Restrictions are applied to stop supplying less critical uses in order to avoid emptying the water resource completely.
- For urban use, critical use include water for the house, unlike gardening, swimming etc.
- Restrictions are gazetted by the Minister (or as delegated) and if implemented, lasts until the drought is broken.

Intervention by restrictions (Operating Rules)

- **Equitable supply** of water to ensure optimal distribution to meet user requirement schedules
- **Restriction** during drought conditions to mitigate against risk of failure to supply water, starting with users with lower assurance of supply so that critical supplies may be sustained for as long as possible
- **Pre-releasing** during flooding conditions to mitigate against risk of flood damage by discharging excess water safely while minimizing losses through spillage .
- **Minimize operational costs** by, for example, prioritizing systems supplying water by gravity or minimum head resistance
- **Reducing water loss** by supplying through and/or storing in as many as possible systems with minimal leaks, evaporation, etc.

Intervention by restrictions (Operating Rules)

- **Water quality management** by releasing more water into systems with pollution problems in order to dilute the polluted water and maintain water resource quality objectives
- **Facilitating infrastructure maintenance** by taking into account times when parts of the infrastructure configuration will have to be out of commission to do required maintenance so that water supplies are not disrupted
- **Maximize system yield** by optimizing integrated operation or conjunctive water use of local resources including surface water, ground water, rainwater harvesting, return flows, water re-use etc,
- **Communication, public participation and capacity building** by ensuring that implementation of operating rules is transparent and inclusive, showing the volume of water to be shared or restricted for the given storage level and/or period.

Intervention by Restrictions: (9)

Restriction Notices:
C = Compliance or restricted, P/C = partial compliance, U = Unknown at this stage.

Province	Notices Published	Notices in Draft	Notices by CMAs	C	P/C	U	Comments
Western Cape	2 Systems	1 system		1	1		
Mpumalanga	7 Dams	-	4	1	1	6	
Northern Cape	1 System	-	-	1			Ground Water use restricted
KwaZulu-Natal	9 (incl 5 systems)	-	-	6	1		
Freestate	6 (incl 1 System)		-	3	2	1	
Limpopo	13 (1 System)		-	5	5	2	
North West	9	1	-	1		7	
Eastern Cape	10 (incl1 system)	-	-	1	1	6	
Gauteng	1 System	-	-		1		Integrated Vaal System
TOTAL	**58 Schemes (incl 12 systems)**	**1 dams (incl 1 system)**	**4**	**19**	**12**	**22**	

EMERGENCY INTERVENTIONS

5. DROUGHT INTERVENTION BOREHOLES

Province	Number of boreholes (emergency programmes)		
DWS, DAFF & CoGTA & NGO Reports	**Refurbished or equipped**	**Newly Drilled**	**Total Working**
Kwa-Zulu Natal	277	350	568
Free State	48	103	308
Limpopo	5	192	1 750
Mpumalanga	168	115	1 094
North West	147	152	3 112
Eastern Cape	30	58	232
Northern Cape	29	18	344
Western Cape	*	*	50
Gauteng	*	38	29
TOTAL	**704**	**1026**	**7 487**

Note that reports on boreholes still require much verification.

Although it is estimated that there may be about 30 000 production boreholes countrywide, many are not operational.

The situation is also very dynamic, it changes daily as boreholes are drilled and or equipped every day while others are vandalised, equipment stolen or groundwater levels drop too low to be utilised.

* No information available.

6. DROUGHT INTERVENTION THROUGH TANKERS

Province	Number of Tankers (Trucks)					Mobile Tanks
	DWS in Dec 2016	DWS in Jan 2017	Municipalities	Others	Total	
Kwa-Zulu Natal	(0+44)=44 !	44 !	10	96 hired	150	7
Free State	14	31	65	1 GotGs	80	3
Limpopo	0	0	78	*	78	
Mpumalanga	0	0	68	*	68	4
North West	(22+3)=25 !	15 +3 !	108	*	133	2
Eastern Cape	9	4	44	*	53	1
Northern Cape	0	0	2	*	2	
Western Cape	0	0	10	*	10	
Gauteng	0	0	*	*	0	
TOTAL	**92**	**66**	**385**	**97**	**574**	**17**

! Including a number of DWS construction tankers each day
All non-construction DWS tankers have been withdrawn since 1 Feb 2017

GotGs: Gift of the Givers

* No information available.

FUNDING EXPENDED: DWS

- Treasury allocated R 341,3 million to DWS as an appropriation of expenditure for 2016/7 Financial Year, specifically for drought alleviation.
- R 290,7 million has been earmarked for a desalination plant at Richards Bay.
- Of these, R 213,7 million (73%) was used by December 2016.
- Progress made:
  - Four modules on site and tested: capacity 3,5 ML/day
  - 3 More modules, capacity 3ML/day procured
  - Plant is producing 1ML/day already
  - All pipes connected
  - Project on track, target for completion February 2017.
- The remainder R 50,6 million was used for tankering of water as well as small, semi mobile reservoirs to areas in the Eastern Cape, Free State, North West and KZN.

EASTERN CAPE

Eastern Cape

- **Algoa System**: 5 dams serving Nelson Mandela Bay: this week an decrease of 1.2% to 52.2%. Last year at the same time were at 90.1%.
- **Amathole System**: 6 dams serving Buffalo City: this week steady at 72.4%. No restrictions in place. Last year at the same time were at 92.9%.
- **Mnquma LM** (Butterworth):
  - Xilinxa Dam currently at 2% last release has been made to the Gcuwa Dam which is at 30.5%, under current conditions supply will run out towards end February 2017;
  - A total population of 130000 will be affected;
  - A contractor has been appointed to equip the Butterworth and Toleni boreholes this week:
  - Water rationing has been implemented to reduce consumption from 14 Ml/day to 3 Ml/day (water available 05:00 to 09:00 and 17:00 t0 20:00 daily):
  - 10 Municipal water tankers are in operation.
- **Kareedouw**: requires emergency intervention, Eerstebos and Derdebos streams dry and Driekrone Dam almost empty, emergency borehole will be equipped.

FREE STATE

Free State

- **Bloemfontein System**: 4 dams serving mainly Mangaung. This week steady at 37.9% compared with 30.3% the same time last year. There is still flow in the Caledon River and we continue to pump from the Tienfontein Pump station on the Caledon. Restrictions of 30% for urban and 75% for irrigation in place. Only 67% compliance with restrictions for domestic use.
- **Orange River**: The Gariep dam is at 53.6% an increase of 1.2% and Van Der Kloof Dam 51.7% a decrease 0.9%.
- **Dams Operated by Municipalities:**
  - Capacity is estimated but does not take into account siltation over the years;
  - Water demand is mostly higher than expected yield;
  - In winter most dams run dry impacting negatively on water supply;
  - Desiltation systems to be installed in future e.g assessment of various sand traps options available for raw water;
  - To improve operations and monitoring of water resources, dam surveys will be conducted & gauge plates will be installed at municipal dams better manage future operations

Free State

- Despite the slight improvement of levels of the Meulespriut, Marquad, Cyferfontein, De Put and Sandspriut Dams as well as the work done by the DWS in providing tankers and refurbishment of boreholes the Province have raised concerns re the lack of support to the Setsoto Municipality with regard to the re- imbursement of costs incurred by the Municipalities.
- **Mitigation Measures**: the following mitigation measures have been implemented to improve water security:
  - Water conservation and water demand management (War on Leaks)
  - Surface water resource management (Optimised the operation of the Caledon and Orange River System)
  - Managing and use of groundwater resources (drilling and equipping additional boreholes)
  - Re-use of water (Mangaung Metropolitan Municipality)
  - Eradication of invading alien plants/catchment care (WfW)
  - Eradication of illegal water use (Enforcement in the Caledon and Orange River System)
  - Development of surface water resources, investigation of raising dam walls
  - Transfer of water (LHWP Ph2, investigation of the emergency transfer Sterkfontein to Fika Patso)
  - Rainwater harvesting (provision of tanks in selected areas)
  - Early warning monitoring of water services (Monday/Wednesday and Friday)

GAUTENG

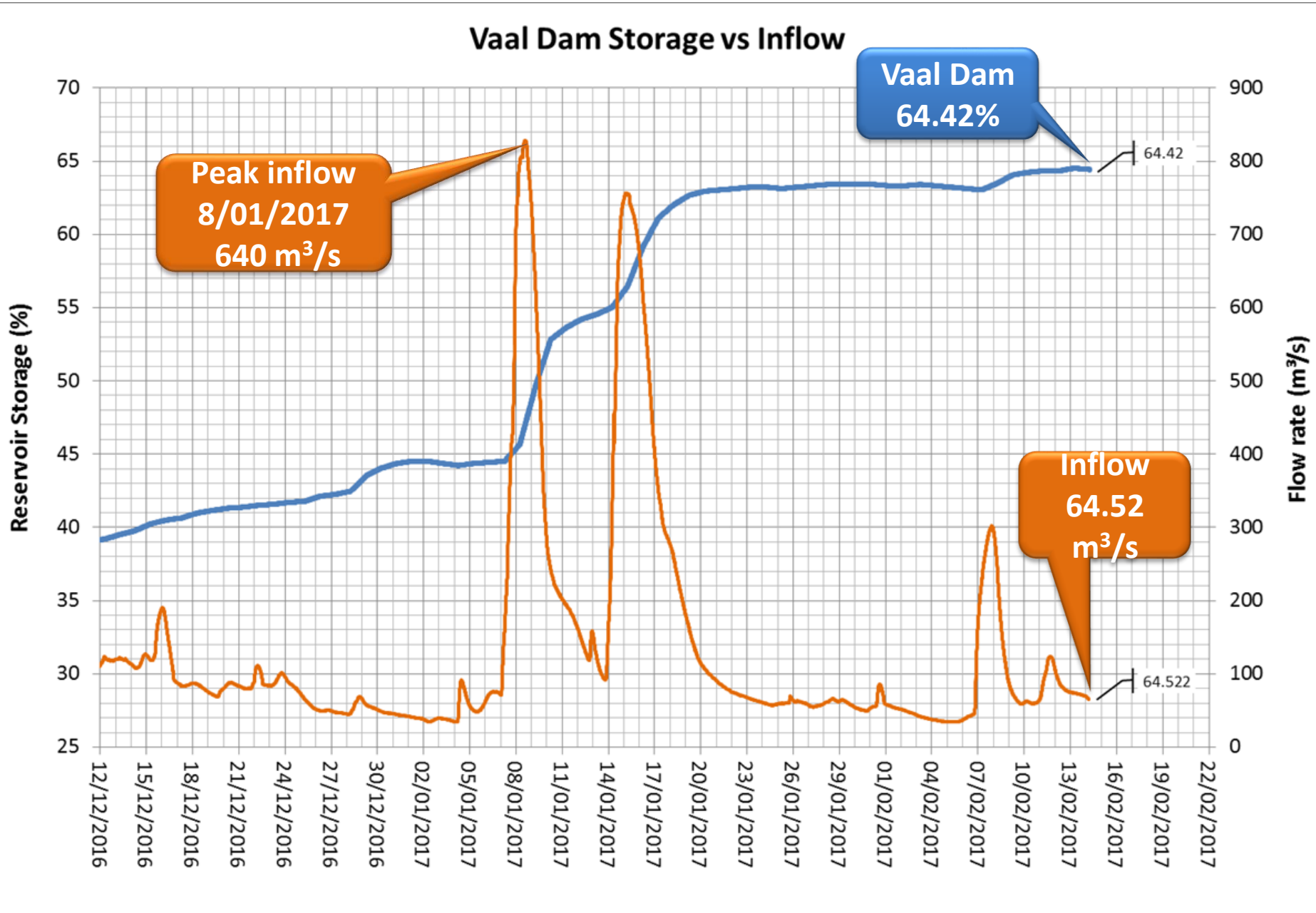
Gauteng

- **The Vaal River System**: 14 dams. Serving mainly Gauteng Sasol and Eskom has increased by 0.8% to 65.56% compared with 59.8% the same time last year. The system has gained 89 million M3 week on week. Katse dam is at 45.8% increased by 0.2%. Vaal Dam decreased by 0.3% to 63.1%. The Sterkfontein Dam increased by 0.3% to 87.6%. The Grootdraai Dam is at 105% a increase of 5.8%. Restrictions of 15% for urban use and 20% for irrigation use in place.
- Pumping continues from the Upper Tugela Transfer Scheme into Sterkfontein- and from Heyshope Dam into Grootdraai Dam (Usutu Scheme).
- The update on the application of restrictions by Municipalities will be available after the meeting of the Technical Committee scheduled for 18 January.


BOTSWANA
SOUTH AFRICA
SWAZIL
LESOTHO
PRETORIA
RUSTENBURG
JOHANNESBURG
Komati-Olifants Transfer Scheme
Upper Olifants Mainly Power Stations
KOMATI
MBABANE
Usutu-Olifants Transfer Scheme
USUTU
Grootdraai Transfer Scheme
Heyshope Transfer Scheme
Zaaihoek Transfer Scheme
Mid-Vaal Water Co
MIDDLE VAAL
Goudveld Water
Bloemhof Dam Subsystem (Includes Grootdraai Subsystem and Tugela-Vaal Transfer Scheme)
UPPER VAAL
Vaal
Bloemhof Dam
Harts Irrigation Scheme
Vaal Gammagara Transfer Scheme
LOWER VAAL
Vaalbos National Park
Kimberley
Senqu-Vaal Transfer Scheme
Tugela-Vaal Transfer Scheme
TUGELA
Katse
Mohale
SENQU
MASERU
BLOEMFONTEIN
Douglas
Pietermaritzburg
DURBAN
Welkom
Parys
Standerton
Sasol
Christiana
N

Overview of Dams in the Integrated Vaal System 06 Feb 2017

DAMS	FSC in 10^6 m^3	08/02/16 Last year		30/01/17 Change over 1 week.			06/02/2017 Change over 1 week.		
		%	CAP	%	CAP	Δ	%	CAP	Δ
Vaal System	**10 565**	**59,8**	**6 318**	**64,7**	**6 835**	**+52**	**65,5**	**6 924**	**+89**
Vaal	2 603	51,8	1 348	63,4	1 651	+5	63,1	1 643	-8
Sterkfontein	2 617	87,5	2 290	87,3	2 285	+9	87,6	2 292	+7
Grootdraai	350	65,4	229	99,2	347	-3	105	366	+19
Katse	1 519	59,8	908	45,6	692	+11	45,8	695	+3
Mohale	857	25,9	222	42,8	367	+1	48,3	414	+47
Woodstock	373	87,3	326	84,8	317	+15	85,5	319	+2
Nooitgedacht	78	65,1	51	72,7	57	0	72,0	56	-1
Vygeboom	78	70,8	55	101	79	+1	101	79	0
Morgenstond	100	54,0	54	58,0	58	0	57,8	58	0
Westoe	60	46,3	28	75,4	45	0	75,3	45	0
Jericho	59	75,8	45	76,5	45	-1	75,0	44	-1
Heyshope	445	87,6	390	81,3	362	+1	81,0	360	-2
Zaaihoek	185	58,8	109	52,3	97	+15	52,2	96	-1
Bloemhof	1 240	21,3	477	35,0	434	0	36,7	455	+21



water & sanitation

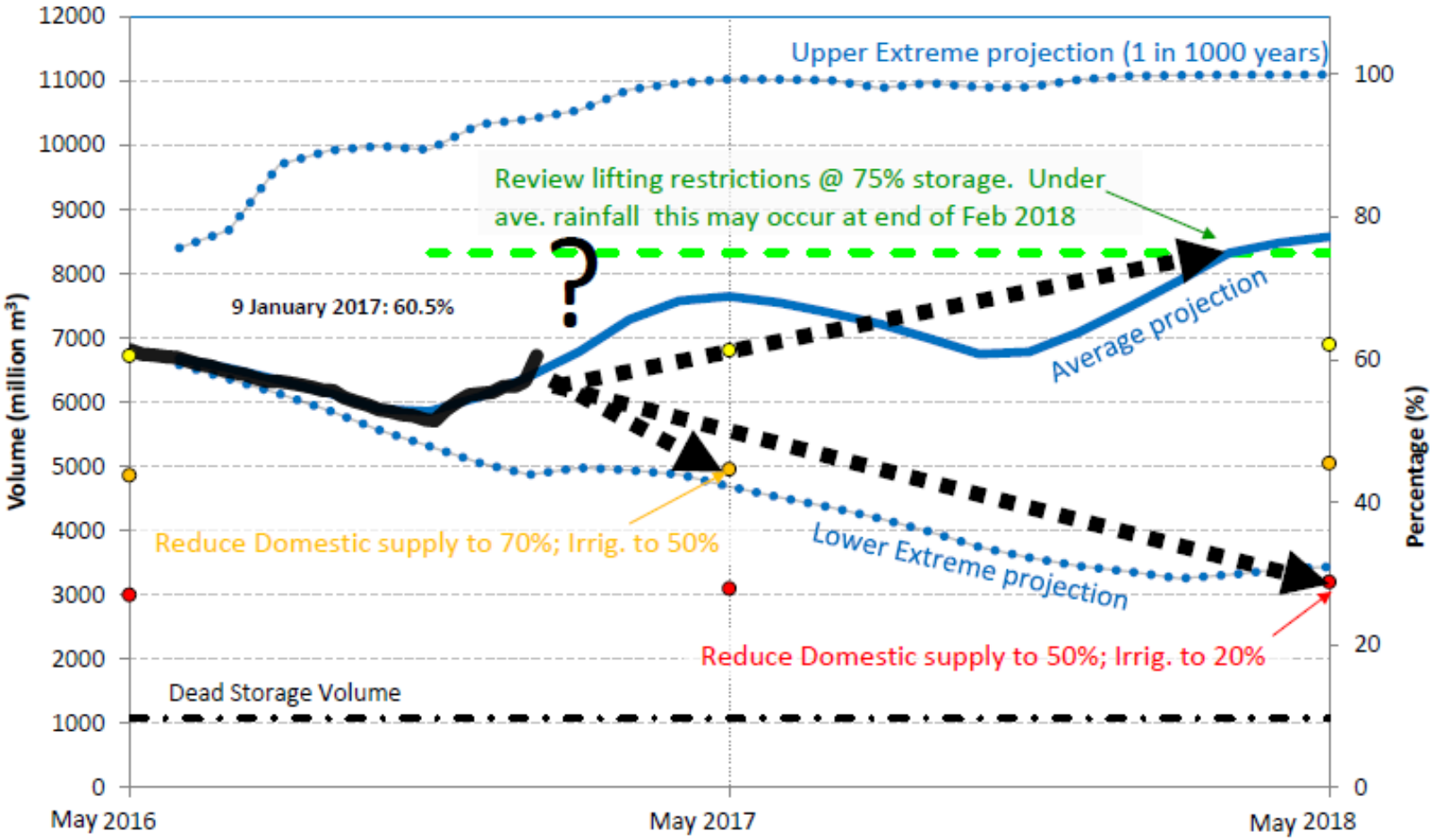
Department:

Dam Storage

14 February 2017 06:00 = 64.42 %

Vaal Dam Storage Percentage

TOTAL VAAL SYSTEM STORAGE and CURTAILMENT DECISIONS



Require full analysis to confirm decisions:
- Full availability of transfer infrastructure
- Acceptable risk of storage depletion until LHWP Phase 2 delivers water.

15% Restrictions

- Both the Technical Committee and the Gauteng JOC on restrictions have commenced meetings on a weekly basis.
- The Technical Committee met on 8 February. There has been a deterioration since last week and we are not meeting the target of 15%, this week achieved 13.1%.(down 0.7%)
- The **winners** this week are:, Mogale City (down 27.8%), Merafong LM (down 27.9%), Rand West LM (down 20.4%), Rustenberg LM (down 24.2%), Mestimaholo LM (down 15.8%), Ngwathe LM (up 17%)and Royal Bafokeng LM (down 17.1%).
- The **losers** this week are: City of Johannesburg (up to 12.5%), Tshwane (down 14.2%), Emfuleni (down 12%) Govan Mbeki LM (14.3%), Victor Khanye LM (11.8%),
- The **Hospital cases** this week are: Ekurhuleni (down 9.1%), Thembisile LM (up 7.9%), Midvaal LM (down 6.7%), Madibeng (down 7.6%) and Lesedi LM (up 7.7%).
- With regard to Midvaal they have experienced difficulties in getting their largest consumer (a Brewery) to reduce consumption, we will be given them assistance in evaluating the extent of savings and benchmark against other breweries.

KWAZULU-NATAL

Kwazulu-Natal

- Most parts of KZN have received fairly normal rainfall this summer season so far, and the smaller water supply systems and systems abstracting directly from rivers have recovered. However, the large supply systems with large storage capacity including the two largest in KZN, the Mgeni and Mhlathuze systems have not recovered.
- **Umgeni Dam system**. 5 dams serving mainly eThekwini and Msinduze. This week steady 47.3%. System was at 58.4% last year. Hazelmere is at 64.2% an decrease of 1.4%. Albert Falls decreased by 0.5% to 24.7%. Midmar dam an increase of 0.3% to 59.2%. Restrictions of 15% for domestic, 50% for irrigation and 15% for industry in place.
- **Other KZN dams** which remain dangerously low: Klipfontein at 35 increase 1.5%; Hluhluwe at 21.8% decrease of 0.4%; and Goedertrouw 27.5% an increase of 0.8%, Pongolapoort steady at 38%..

Kwazulu-Natal

- The average rainfall that has been received is making the public appreciation of the need for on-going restrictions in these systems a challenge.
- KZN JoC's still remain active.
- Municipalities have been advised to reprioritise WSIG for any drought interventions excluding water carting.
- KZN disaster management has received R150 million to assist with drought.
- The desalination plant in Richards bay which will be commissioned in February 2017 (7 months).
- The Tugela Emergency transfer scheme is quite advanced in the preparation for implementation and the Service Providers have been appointed.

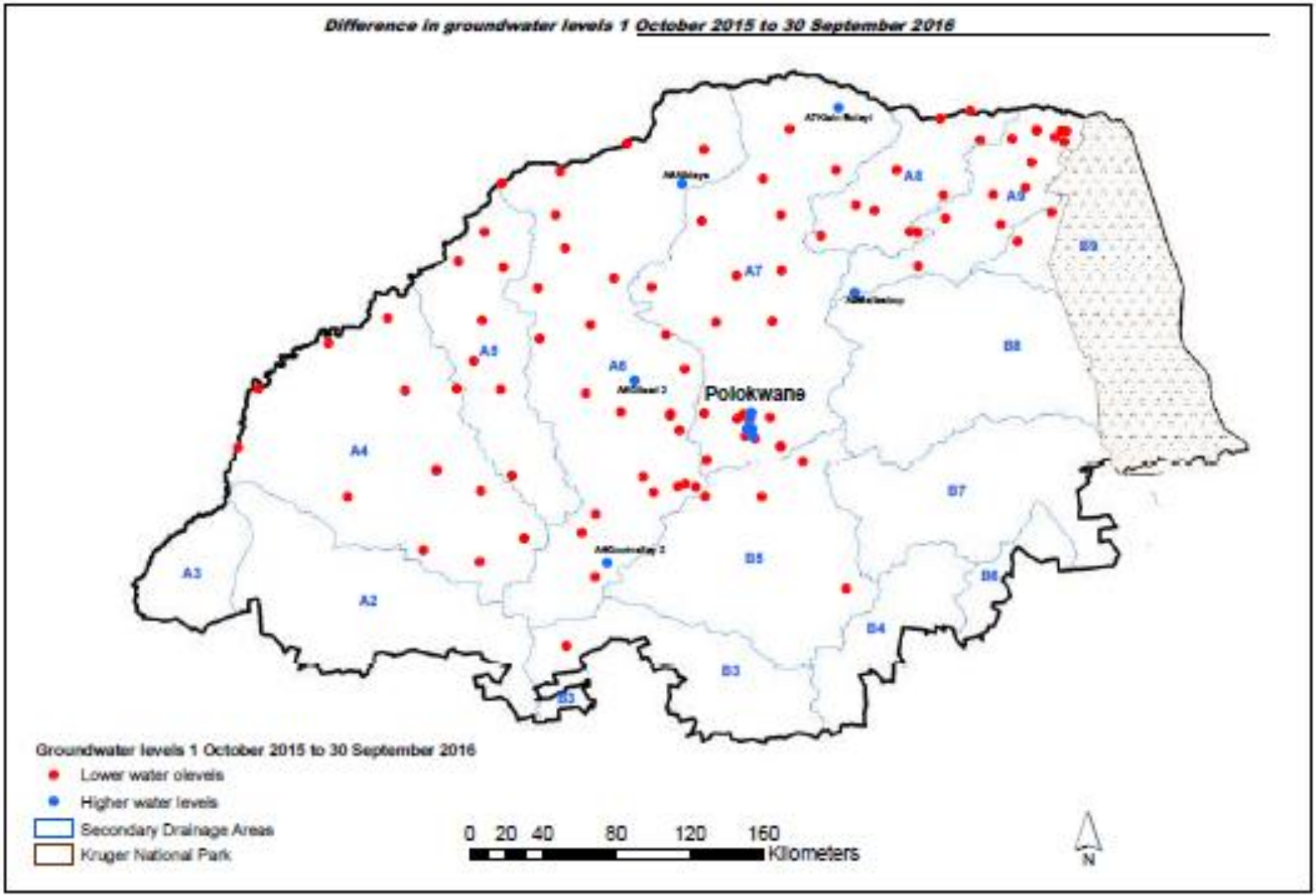
LIMPOPO

Limpopo

- **Polokwane System**: 2 dams. Increase of 2.1% to 52.2%. System was at 52% at the same time last year. Restrictions of 20% for all users are in place.
- **River Flows**: There is an improvement in river flows following the rains over the last two weeks:
  - Limpopo River at Beit Bridge flowing at 97.6 m^3/s
  - Limpopo River at Sterkloop flowing at approximately 16 m^3/s
  - Great-Letaba River flowing at Engelhardt (KNP) flowing at 6.2 m^3/s
  - Levuvhu River at Mhinga flowing at 5.7 m^3/s.
  - Klein Letaba River at Tabaan flowing at 0.5 m^3/s.
  - Palala River at Visgat flowing at 4 m^3/s
  - Glen Alpine Dam in the Mogalakwena River spilling at 10.5 m^3/s

Limpopo

- **Groundwater systems:** There is a notable decline in groundwater levels at the majority of monitoring stations due to very limited recharge since 2014:
  - The effect of lack of recharge over past two seasons account for almost 91% of monitoring boreholes currently being lower than in September 2015.
  - Despite the current declining trend historical data indicate that levels are generally still much above the critical levels reached in earlier droughts such as the early nineties.
  - In most areas the groundwater resource can withstand another, or even two seasons, of poor recharge.
  - Exceptions exist, drastically declining groundwater levels and failing of production holes due to lack of resource management can be identified at a few localities but so far still limited to localised occurrences.
  - Areas requiring observation are: Tshakhuma, Mutale, Vondo RWS area, Nzhelele, Hout River Dam supply area and Albasini Dam supply area


Difference in groundwater levels 1 October 2015 to 30 September 2016
Polokwane
A1
A2
A3
A4
A5
A6
A7
A8
A9
B1
B2
B3
B4
B5
B6
B7
B8
B9
Groundwater levels 1 October 2015 to 30 September 2016
Lower water olevels
Higher water levels
Secondary Drainage Areas
Kruger National Park
0 20 40 80 120 160
Kilometers
N

MPUMALANGA

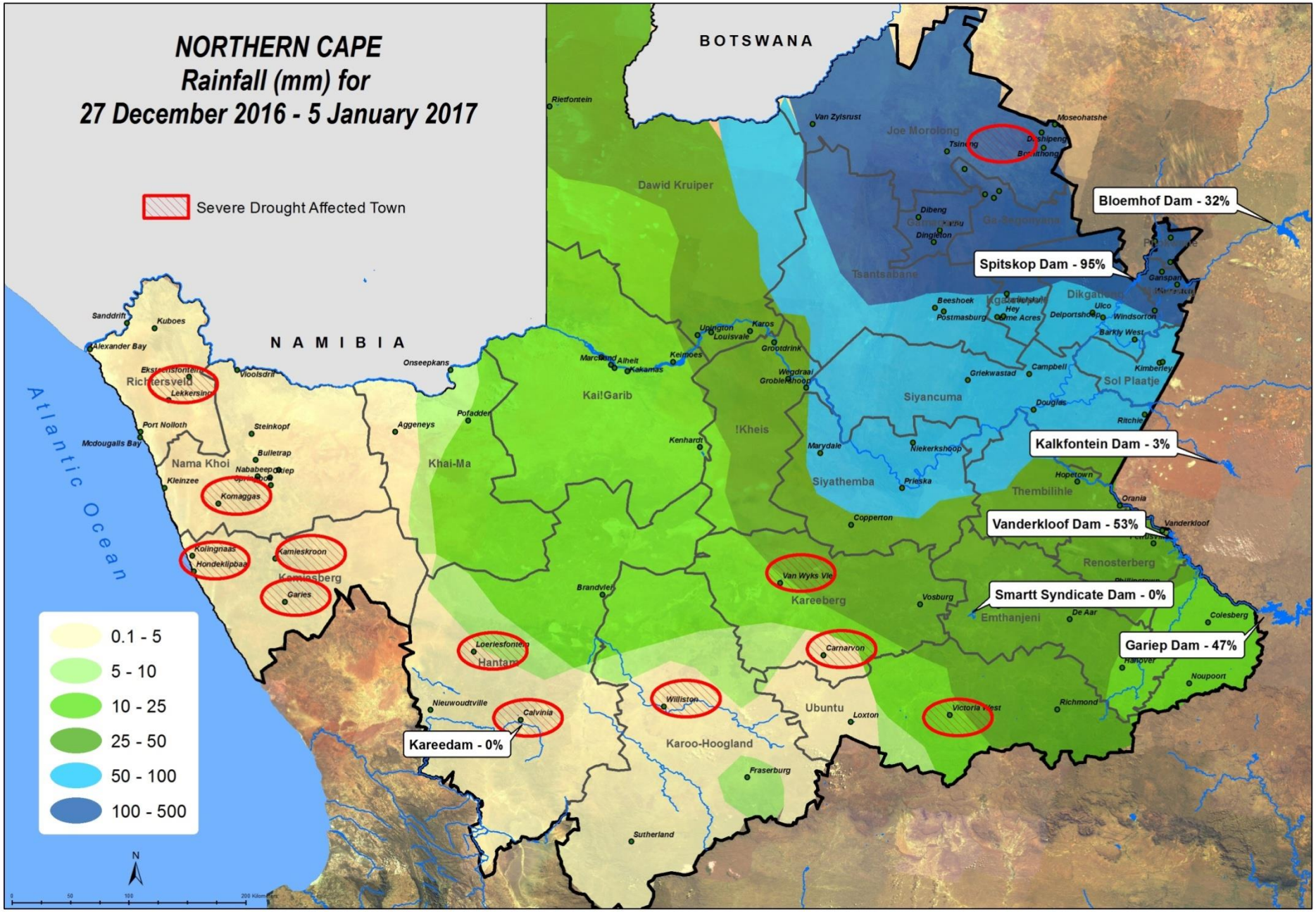
Mpumalanga

- **Mbombela LM (Barberton):**
  - Suidkaap Water Plant: DWS funding (R34 million) this treatment plant has just undergone major refurbishment and completed in August 2015. Refurbishment work includes installation of mechanical, electrical components, 7.5km bulk pipeline, two new concrete reservoirs and sludge drying bed.
  - The Rimmers Creek Water Plant currently delivers about 0.5 ML/day against its design capacity of 16.6Ml/day. This reduction in delivery capacity is drought related due to the drying up of the Lomati dam which is the major source of water for Barberton.
  - Severn newly drilled boreholes has been brought to services since September 2016.
  - Combined delivery capacity amounts to 1.05 ML/day: The total amount of 6.55 ML/day is served to the residents of Umjindi. Water rationing and pressure reduction has been introduced to lessen the demand and supply.
  - An additional 80 000 litre storage tank has been installed at the township.

Mpumalanga

- **Mkhondo:**
- Serviced from three Water Treatment Plants i.e. Piet Retief Water Plant (old and new unit), Amsterdam Water Plant and Driefontein Water Plant. The combined water delivery capacity of the three water treatment plants is 22.8Ml/day.
- The Mkondo Municipal supply is linked to the DWS operated Usuthu Bulk Water Transfer Scheme linked to the four major dams (Westoe Dam, Jericho Dam, Heynshoop Dam and Morgenstond Dam) in the Usuthu River Catchment.
- Piet Retief receives a supply through a release of 7 m^3/s from Heynshoop Dam.
- DWS released water Municipal Gabosch Dam (Amsterdam) whenever the level drops to critical levels, through this intervention have managed to avert water shortages
- The drought impacted on groundwater leading drying up 32 boreholes.
- The Municipality deployed three water tankers to services affected 84 communities.
- A total of 310 boreholes are in still in operation and mainly servicing the needs of rural communities.

NORTHERN CAPE


NORTHERN CAPE
Rainfall (mm) for
27 December 2016 - 5 January 2017
Severe Drought Affected Town
BOTSWANA
NAMIBIA
Atlantic Ocean
Bloemhof Dam - 32%
Spitskop Dam - 95%
Kalkfontein Dam - 3%
Vanderkloof Dam - 53%
Smartt Syndicate Dam - 0%
Gariep Dam - 47%
Kareedam - 0%
0.1 - 5
5 - 10
10 - 25
25 - 50
50 - 100
100 - 500
Dawid Kruiper
Joe Morolong
Tsantsabane
Ga-Segonyana
Kgatelopele
Dikgatlong
Sol Plaatje
Kai!Garib
!Kheis
Siyancuma
Siyathemba
Thembilihle
Khai-Ma
Nama Khoi
Richtersveld
Kamiesberg
Kareeberg
Renosterberg
Emthanjeni
Hantam
Karoo-Hoogland
Ubuntu
Rietfontein
Van Zylsrust
Moseohatshe
Dibeng
Dingleton
Beeshoek
Postmasburg
Hey
Ulco
Delportshoop
Windsorton
Barkly West
Kimberley
Campbell
Griekwastad
Douglas
Ritchie
Niekerkshoop
Marydale
Prieska
Hopetown
Orania
Copperton
Vanderkloof
Van Wyks Vlei
Brandvlei
Vosburg
De Aar
Colesberg
Carnarvon
Hanover
Noupoort
Richmond
Loxton
Williston
Nieuwoudtville
Calvinia
Fraserburg
Sutherland
Sanddrift
Kuboes
Alexander Bay
Port Nolloth
Mcdougalls Bay
Steinkopf
Vioolsdrift
Onseepkans
Pofadder
Aggeneys
Kenhardt
Marchand
Alheit
Kakamas
Keimoes
Upington
Louisvale
Karos
Grootdrink
Wegdraai
Groblershoop
Kleinzee
Komaggas
Bulletrap
Kolingnaas
Hondeklipbaai
Garies
Kamieskroon
Loeriesfontein
Lekkersing

Northern Cape

- Despite the good rainfall during December 2016 and January 2017, the drought status remains unchanged.
- The mid summer rainfall has not made any difference to the Western parts of the Northern Cape as can be seen on the map on the next slide (rainfall decreased substantially fro east to west). Funding is required for short term solutions such as groundwater source development, small scale desalination where water quality is not acceptable and the carting of water by tanker.
- The most severe drought effected towns are in the Namakwa, Pixley ka Seme and John Toala Geatsewe District Municipality, In total 11 towns (Calvinia, Loeriesfontein, Williston, Spoegrivier, Klipfontein, Eksteenfontein, Lekkersing, Van Wyksvlei, Laxey, KiloKilo, Metsimatsi Wyk 7).
- All towns are depended on groundwater with the exception of Calvinia which is also supplied by Karee Dam which is currently empty, they now are having to rely on water carted by tanker, the tanker runs are also very long (average round trip is approximately 120 km)
- All towns are managed through strict water restrictions.

NORTH WEST

North West

- **Crocodile West system**: 6 dams serving mainly Tshwane, Madibeng and Rustenberg an decrease of 1.9% to 96.2%. System was at 74.1% at the same time last year.
- While dam levels have improved in North West, water supplies are still intermittent due to a lack of maintenance leading to operational failures;
- At Swartruggens the dam is now 100%, but the municipality were not able to bring the Water Treatment works back into operation, Magalies Water have been deployed to assist the Municipality, took 3 weeks to re-instate the system
- Areas still requiring support: Ngaka Modiri Molema (Tswaing, Ditsobotla, Mahikeng, Ramotshere) and Dr Ruth Mompati (Mamusa Schwartezreineke) Wentzel Dam empty and borehole yields down. Both DM's do not have funds
- In many Municipalities the operators operating Water and Waste Water Treatment works are poorly trained.
- The DWS has decreased the number of tankers in operation from 30 to 15.

WESTERN CAPE

Western Cape

- **Cape Town Dams System**: 6 dams serving mainly City of Cape Town (CoC): this week decreased by 1.6% to 36.9%. The system was at 45% at the same time last year, there is a slight decrease in the rate of fall from 1.8% the previous week. The Voelvlei dam down 2.2% to 39.8%. The Berg River Dam down 2% to 45.8%. The Theewaterskloof down by 1.8% to 31.8%. The 20% restrictions for domestic and 30% for agriculture in place for the Cape town System. Cape Town have now introduced level 3B restrictions to meet the target currently just 8Ml/day short of target. Agriculture are reducing their consumption by 20% per month through to August to achieve the target.

- Concerns circulating on Social Media that CoC only have 100 days water available, this is not true:
  - the System Operating Forum met in November 2016 and based on the current operating rule for restrictions the system would only be violated in Nov 2022, we do a further system re-run in November 2017. This assumes that all users will implement restrictions as required.
  - On 13 February 2017 the CoC announced in a media statement that they are now lowering their target from 800 million litres to 700 million litres for collective water use per day.
  - This they have decided to do because of the current rate of draw down on the dams.

IMPACT ON AGRICULTURE

Impact of Drought on Agriculture

- **The National Agricultural Marketing Council (NAMC) constituted a committee in terms of Section 7 of the Marketing and Agricultural Products Act (Act 47 of 1996) to advise the Minister on the impact of the drought and implementation of drought response measures.**
- **Some of the findings of the Section 7 Committee are:**
  - **The Impact of the drought has been severe over all agricultural sub-sectors (grains, oilseeds, red meat, sugar and fruits and nuts);**
  - **Production has dropped across all sectors and farm incomes have been affected;**
  - **Grain farmers in the maize producing areas of Free State and North West the most affected;**
  - **The impact has been significant on poor and vulnerable households and individuals;**
  - **The Consumer Price Index (CPI) for food and non-alcoholic beverages has breached the upper band of the Reserve Bank inflation target, while this may be in part due to currency weakening, a large part is due to the drought;**
  - **Rising food prices affect mainly the poor, which is bad from a food security perspective;**
  - **The drought has had catastrophic impact on grazing and fodder production, grazing conditions have reduced significantly and will take some time to recover;**
  - **Government's drought relief programme has played a role in saving some jobs which could have been lost due to drought;**
  - **Many farmers continue to struggle to service debt and some businesses may even close.**

FUNDING EXPENDED: AGRICULTURE

- **Funding coordinated by NDMC : AGRICULTURAL SECTOR = R212m**

Province	Amount	Status	Farmers Assisted
Eastern Cape	R29 million	Implementation ongoing. Delivery of Lucerne stands at 2629.54 tons	Distribution ongoing. Verification of farmers assisted to date in progress
Free State	R31 million	Implementation ongoing. Delivery of drought pellets is at 49% or ***43 591 bags delivered***	Distribution ongoing. A total of 1459 farmers assisted to date
Kwa Zulu-Natal	R23 million	Implementation ongoing. Delivery drought pellets is at ***16470 bags delivered***	Distribution ongoing. Verification of farmers assisted to date in progress

FUNDING EXPENDED: AGRICULTURE

- **Funding coordinated by NDMC : AGRICULTURAL SECTOR**

Province	Amount	Status	Farmers Assisted
Limpopo	R28 million	Implementation halted, due to sluggish implementation contracts of two Service Providers terminated. Delivery of drought pellets stands at 14% or *14 973 bags delivered*. Three(3) Service Providers appointed, implementation to commence on the 6 February 2017	A total of 168 farmers assisted to date.
Northern Cape	R25 million	The Province has requested to implement through a voucher system. Management decision pending	

FUNDING EXPENDED: AGRICULTURE

- **Funding coordinated by NDMC : AGRICULTURAL SECTOR**

Province	Amount	Status	Farmers Assisted
Mpumalanga	R26 million	Implementation ongoing. Delivery of drought pellets and mollasses is at 40% or ***38 822 bags delivered(pellets & mollasses)***	Distribution ongoing. Verification of farmers assisted to date in progress
North West	R38 million	Implementation ongoing. Delivery of drought pellets is at 72% or **110 224 of bags delivered**	Distribution ongoing. A total of 8925 farmers assisted to date
Western Cape	R12 million	Implementation ongoing complete. Delivery of drought pellets stands at 100% or ***37282 bags delivered***	Distribution ongoing. A total of 227 farmers assisted to date.

CONCLUSION

Conclusion

- Although rains are still forecasted in the short term, it is unlikely to be enough for dams to recover fully.
- Longer term forecasts indicate not sufficiently above average summer rainfall to support adequate recovery before the winter sets in.
- Although SAWS outlook seasonal forecast favours above-normal rainfall for the remaining summer season over most parts of the country, though with reduced likelihood and increased uncertainty compared to previous predictions
- Current observations show a gradual decay of the weak La Nina state to neutral ENSO state as expected, this may cast substantial uncertainty on the prediction of rainfall and temperature conditions in the country.
- We therefore need to continue to intensify efforts of enforcing water restrictions to stretch available water supplies.

THANK YOU!

water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA