



Food and Agriculture  
Organization of the  
United Nations



Somalia Water and Land Information Management

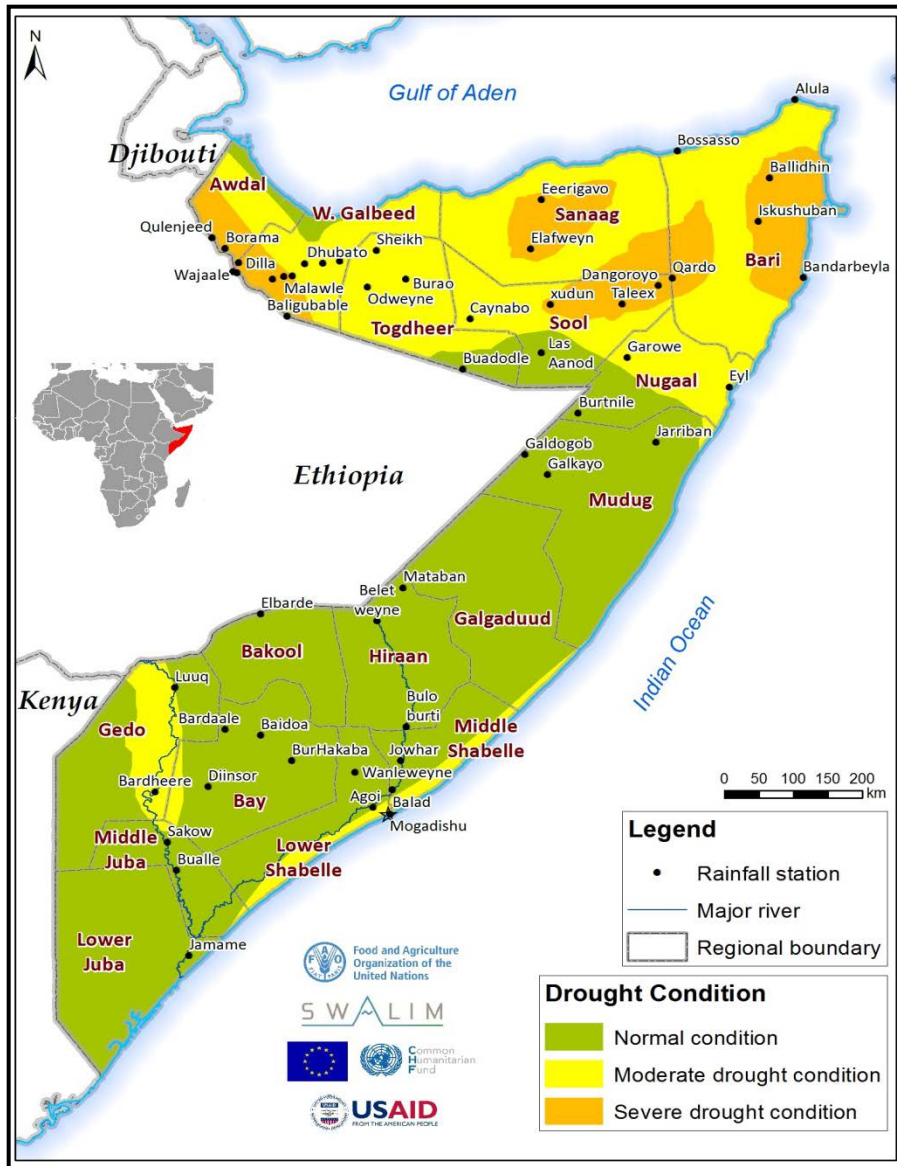


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# *Update on drought situation and river levels along Shabelle River*

**31 March 2016**

# Drought conditions in Somaliland and Puntland

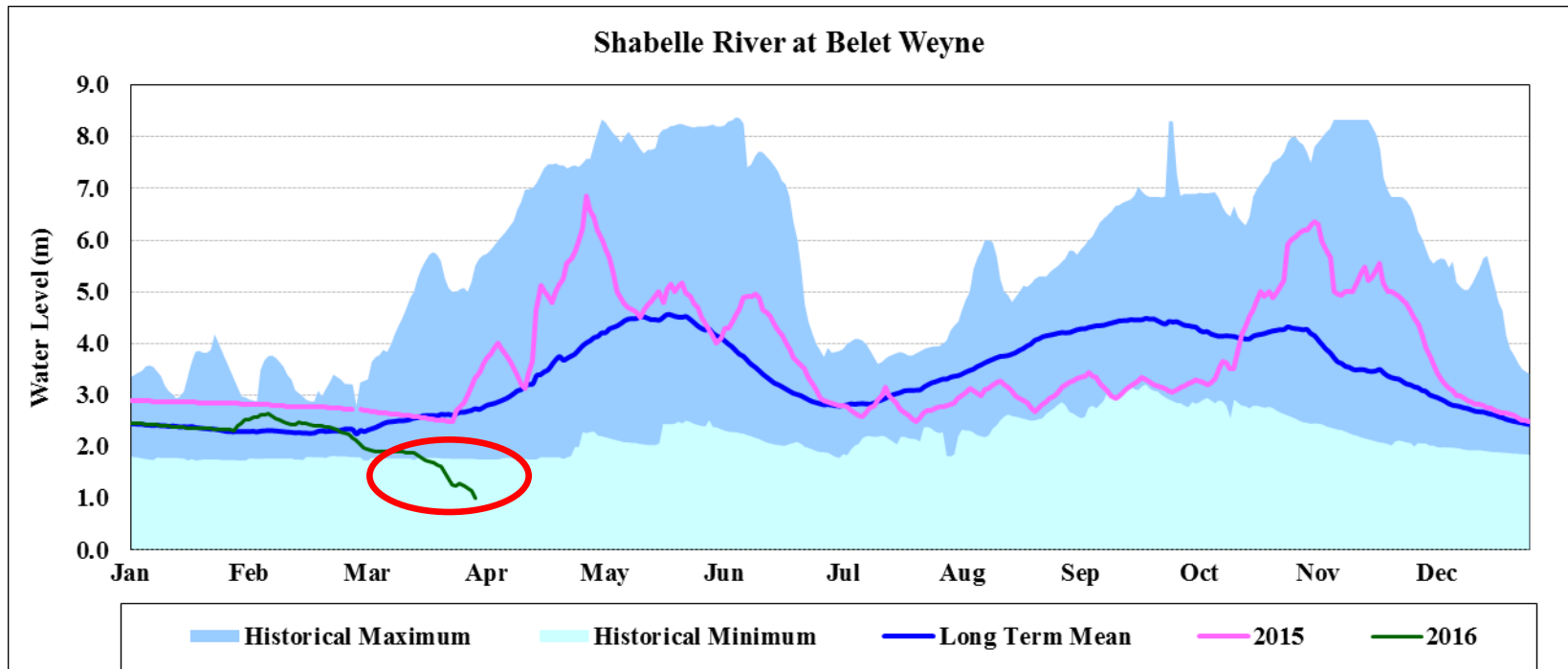


- Drought conditions continue to be experienced in parts of Puntland and Somaliland
- The drought is as a result of failed consecutive rainy seasons and extreme high temperatures experienced in February and March
- The drought has affected both human and livestock in negative ways leading to interventions from the Government and humanitarian agencies
- Water resources and pasture conditions have deteriorated
- The Gu rainy season is expected to start in early April

# Shabelle River Levels

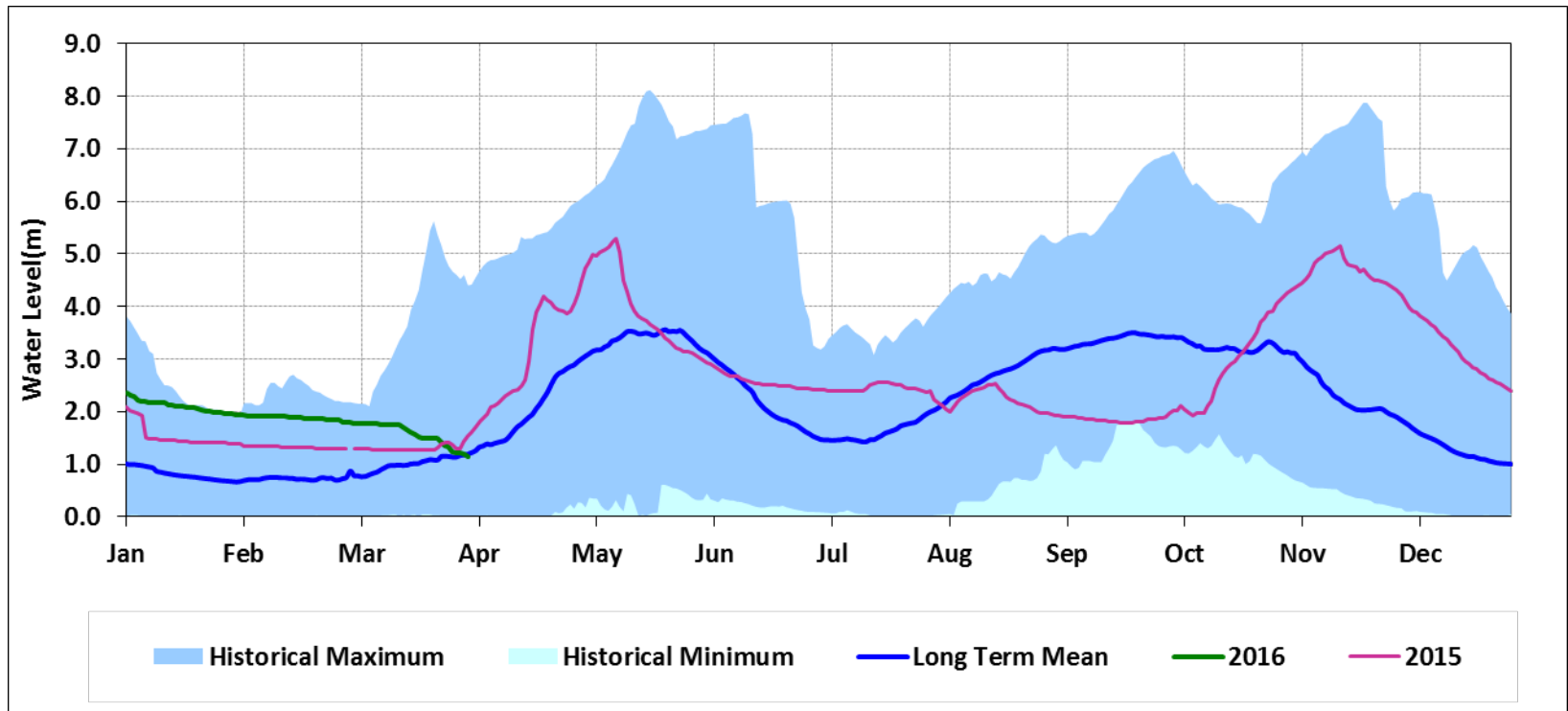
- River levels along the entire Shabelle river are currently at the lowest levels in records
- Below normal rains in the Ethiopian highlands during the last rainy season due to El Nino phenomenon has led to severe drought and consequently reduced flow in the river both in Ethiopia and Somalia.
- Although some parts of the basin have started to receive some rains, the situation is expected to improve in the **second week of April** with the increase of rainfall intensity as the season progresses.

# Shabelle River at Belet Weyne as of 31 March 2016



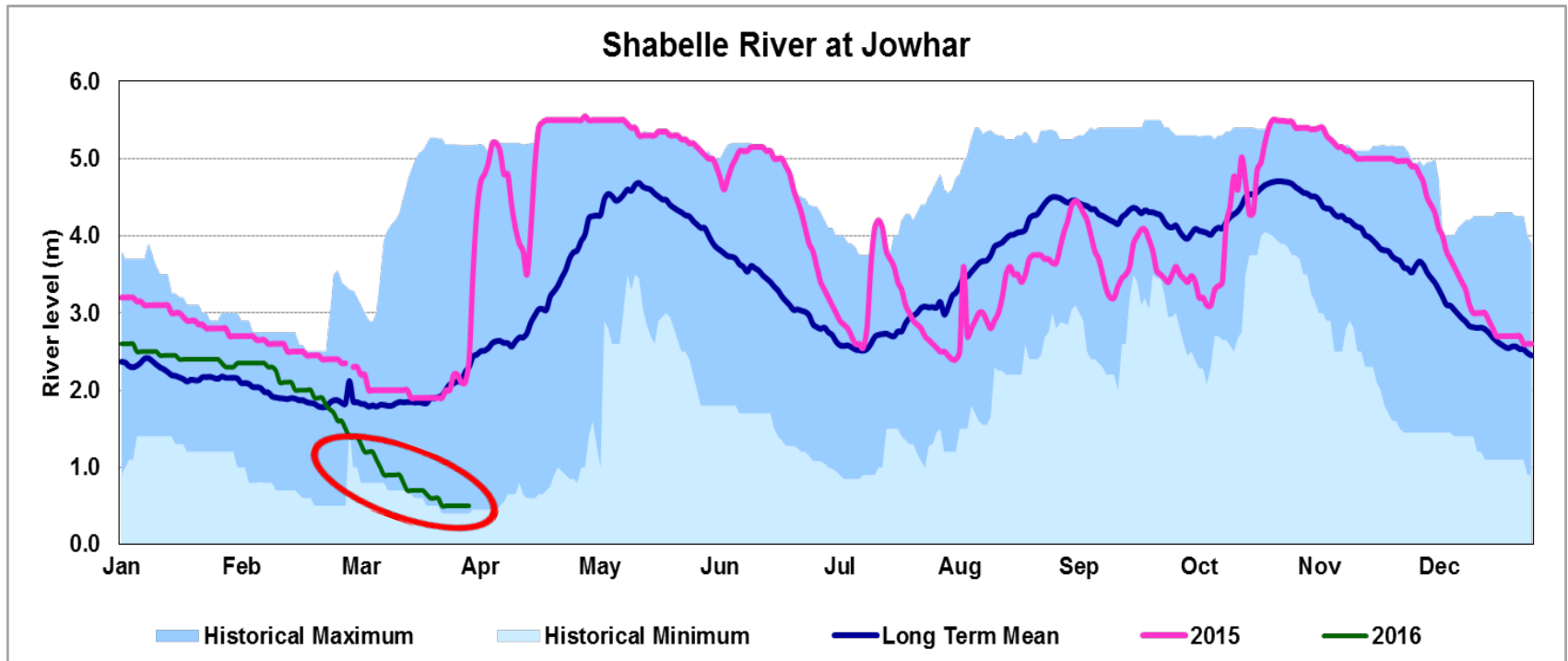
River levels decreased significantly over the last week and are currently at **lowest historical minimum since 1963.**

# Shabelle River at Buloburti as of 31 March 2016



River levels at Buloburti decreased slightly over the last week but are within normal due to the deep channel of the river at this location.

# Shabelle River Level at Jowhar as of 31 March 2016



- River levels at Jowhar (Middle reach) has also reached **historical minimum in records.**
- Reports from other downstream reaches of the river including Balcad, Afgoye and Janaale indicate a similar trend of very low river levels

# Weir at Jowhar



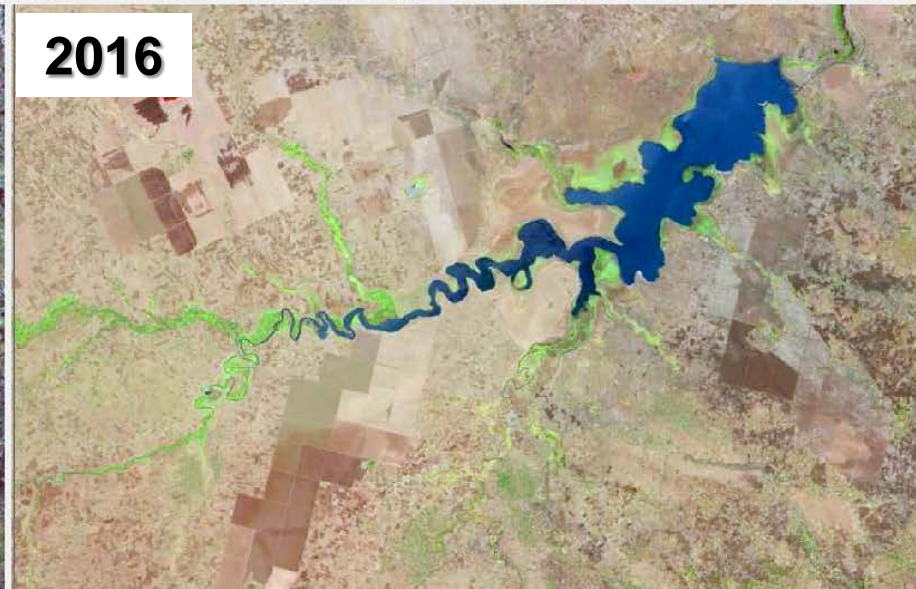
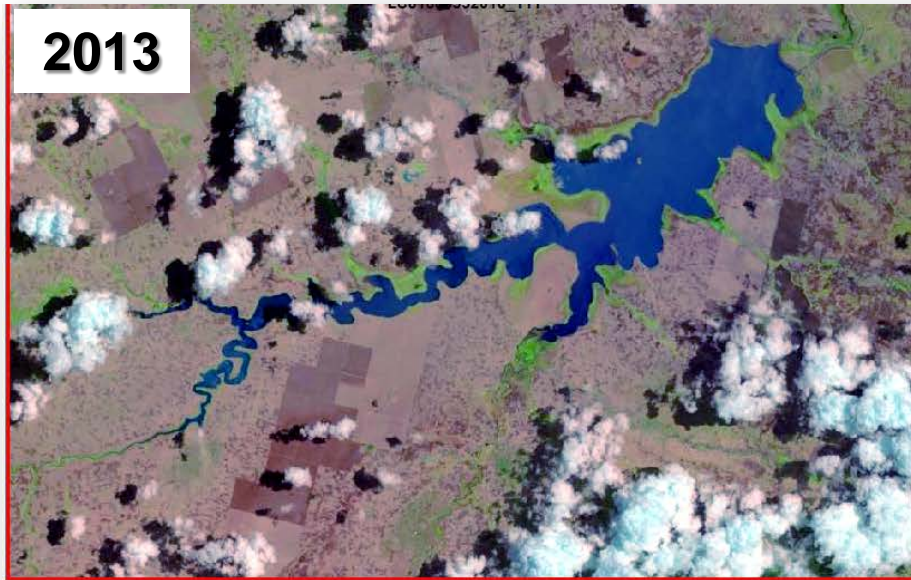
- The weir was built in 1925 by Italians upstream of Jowhar to raise water level for irrigation purposes.
- Currently there is no water upstream of the weir, hence there is no overflow downstream.
- This has resulted in dry river beds that are currently seen at Jowhar and other locations downstream.

# Situation of Shabelle River in Ethiopia

- Prolonged dry season in Shabelle basin led to reduced river flow along the Shabelle in the Ethiopian highlands which are currently significantly below normal
- **The Melka Wakana Dam in the highlands shows a significant decrease of water in the last three years as detected through satellite images**
- Owing to the little water in the reservoir there has been little or no release of water to the river.
- Further, a Weir located in Gode, north of Ethiopia-Somalia border shows very little flow in its downstream reaches which also justifies the low flows in Somalia.
- There is no evidence of dam closure in Ethiopia.

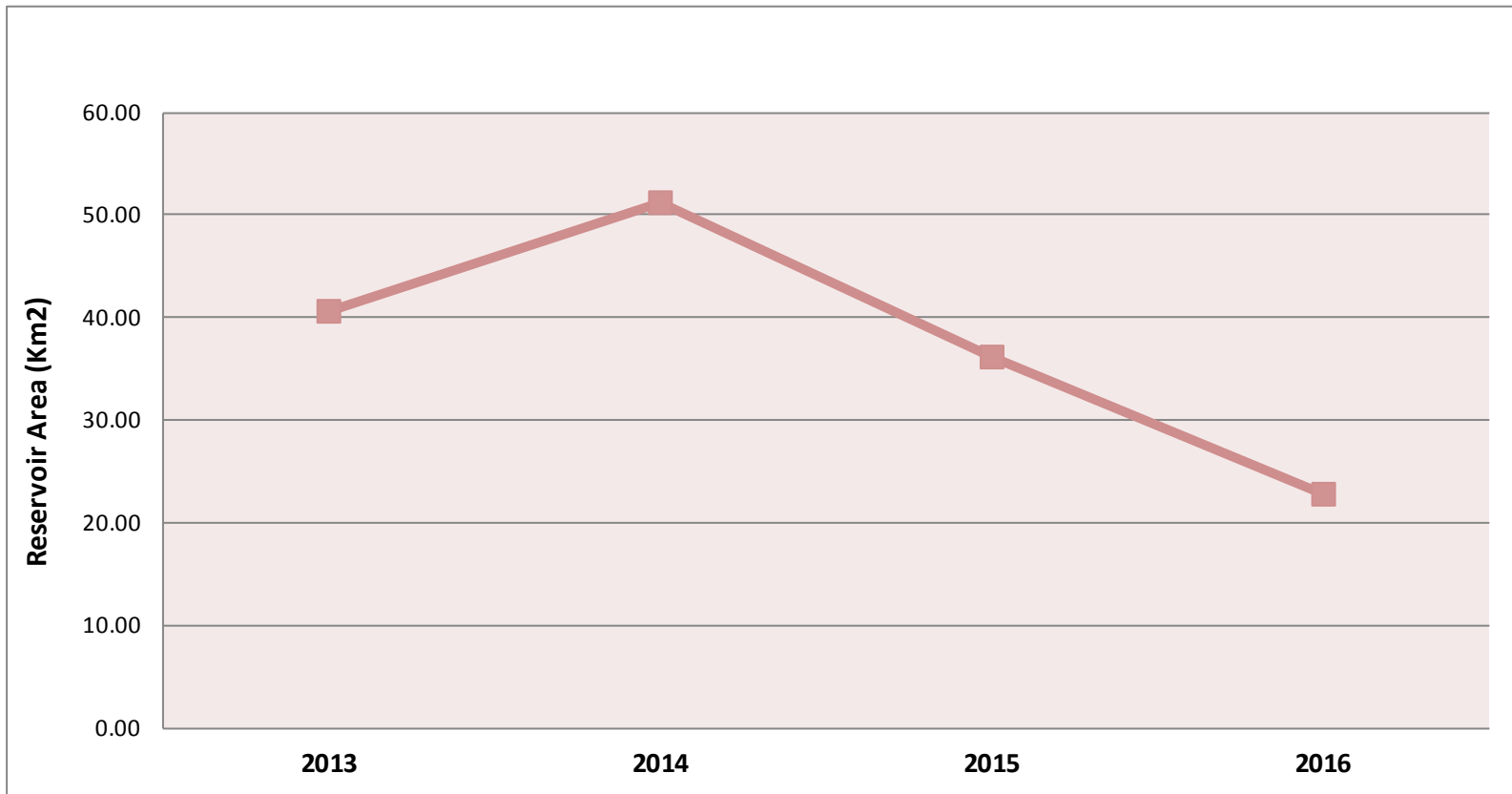


# Evidence of flow reduction into Melka Wakana Dam (2013 -2016)

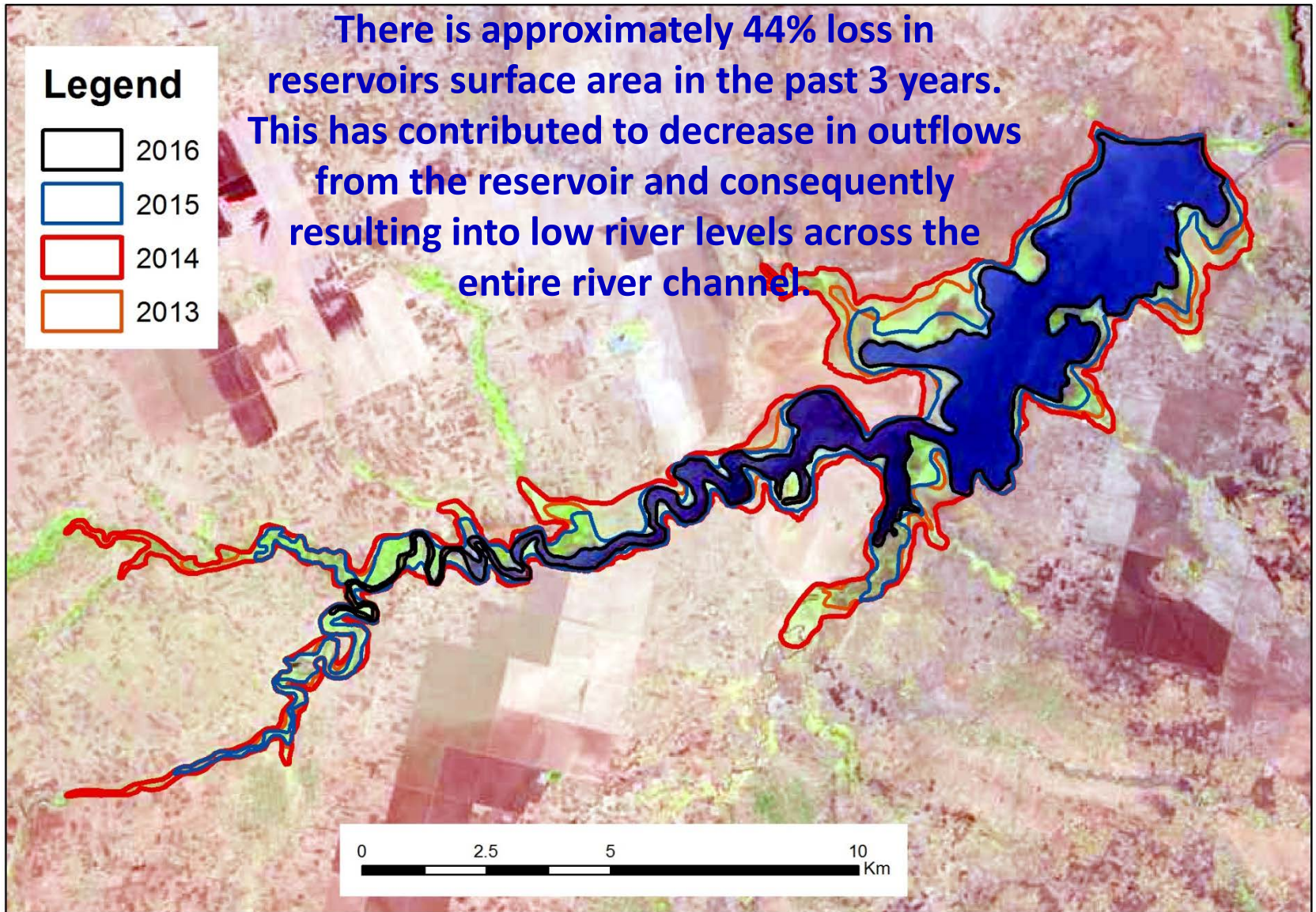


# Analysis of water reduction in Melka Wakana Dam (2013 -2016)

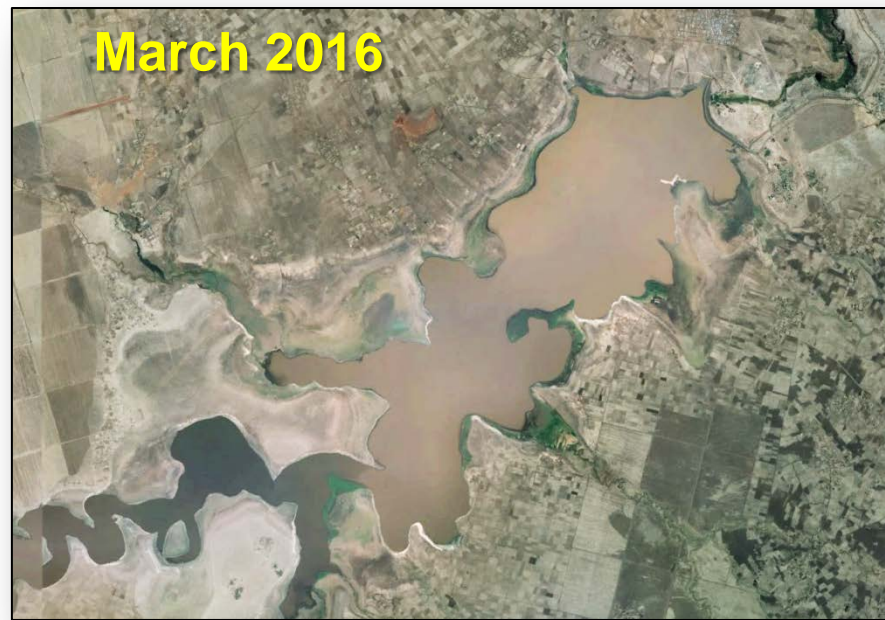
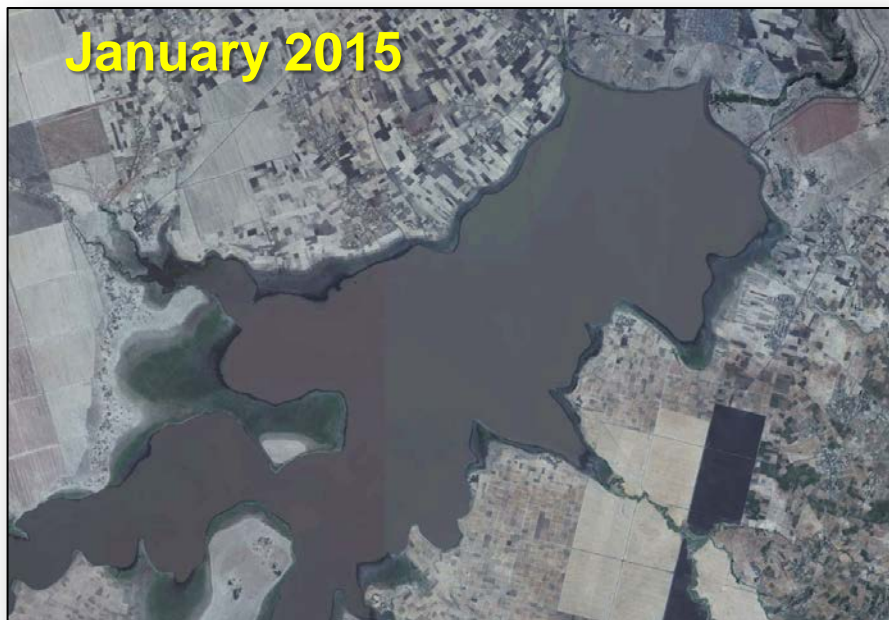
YEAR	Reservoir Surface (Km <sup>2</sup> )	+/-	%
2013	40.63	0.0	0
2014	51.15	10.5	26
2015	36.15	-4.5	-11
2016	22.81	-17.8	-44



# Comparison of Melka Wakana Reservoir water extent from 2013 to 2016, as seen on satellite image acquired on March 2016



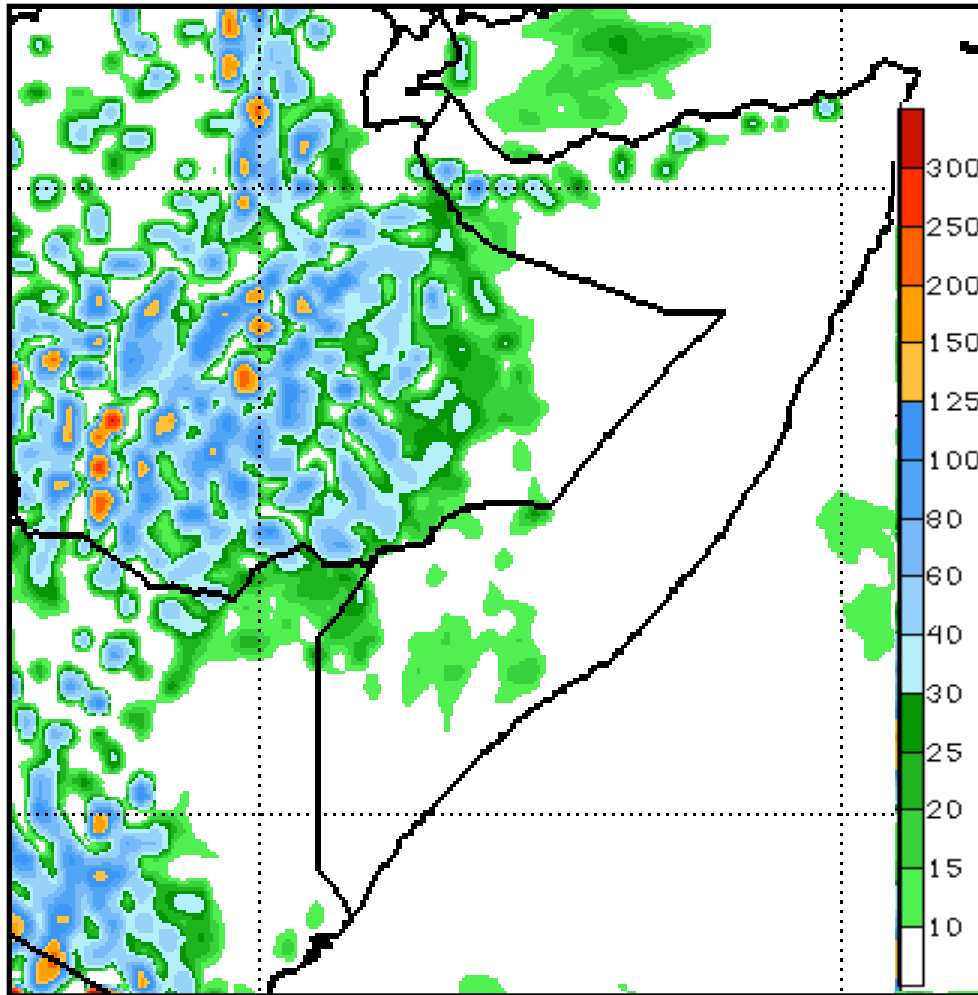
**Melka Wakana Reservoir as seen from VHR satellite images.  
SWALIM estimates a decrease in the reservoir surface area of  
about 13.3 Km<sup>2</sup> between 2015 and 2016 only.**



- It is clear there is no evidence of closure of dam gates for flow downstream
- The low levels seen in Shabelle are attributed to the prolonged drought experienced in the upper catchment of the Shabelle river basin in Ethiopia

# Rainfall Forecast

## 31 March to 06 April 2016

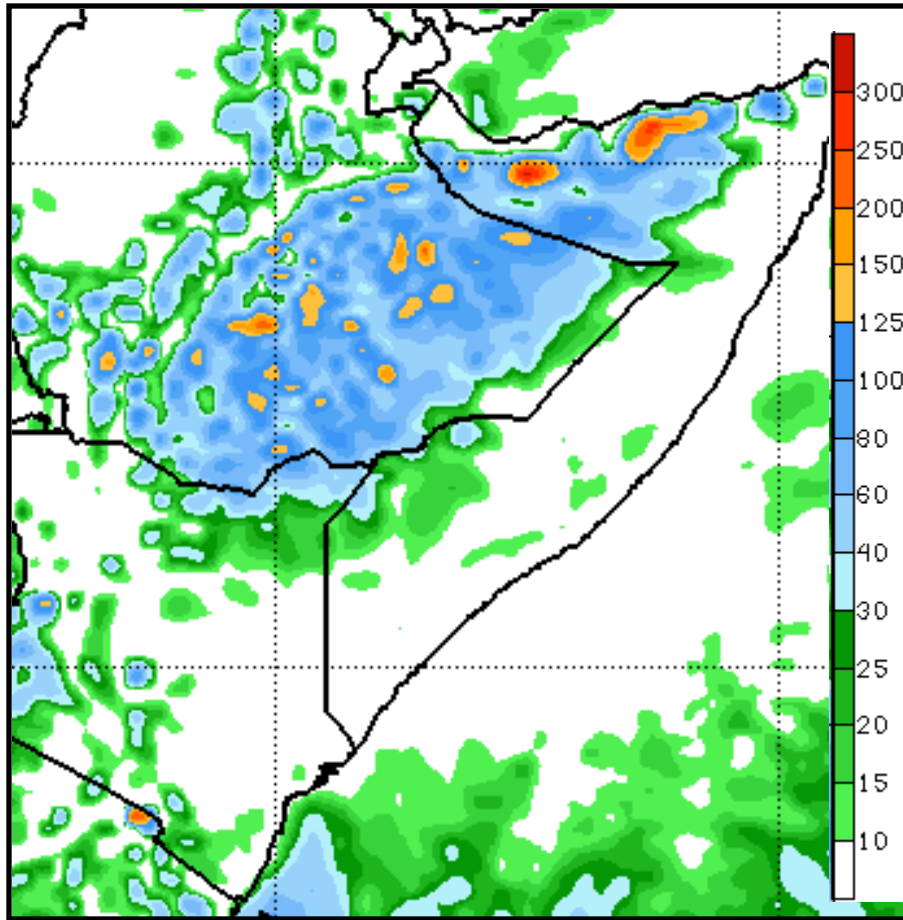


Source: NOAA

- Dry conditions are expected to persist in most parts of Somalia in the next one week (up to 06 April) with some parts in Somaliland and parts south expected to receive light rains and
- Light to moderate rains are expected in the upper and middle parts of the Ethiopian highlands during the same period

# Rainfall Forecast

## 7 to 13 April 2016



Source: NOAA

- The second week ending 13 April 2016 is expected to see an increase of rainfall activities (both spatial and intensity) in the Ethiopian highlands and Somaliland regions
- A few pockets of the Southern and central regions may also record some rains during the same period

# Conclusion

- The low flows along the Shabelle River both in Somalia and Ethiopia are due to a **hydrological drought** within the basin, specially in the upper part.
- Water availability for human and animal use will continue to deteriorate until the levels increase.
- The situation is expected to improve with the intensification of rains within the basin during the **second half of April 2016**
- **Speculations on closure of a dam in Ethiopia is not supported by any information currently at the hands of SWALIM.**
- SWALIM and other technical partners will keep monitoring and updating the situation during the coming season



Questions or comments please send to

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Thank you very much