

# iSimangaliso

## News Flash



iSimangaliso  
Wetland Park



KOSI BAY COASTAL FOREST LAKE SIBAYA SODWANA BAY UMKHUZE FALSE BAY CHARTERS CREEK LAKE ST LUCIA CAPE VIDAL MAPHELANE

### South Africa's largest wetland rehabilitation project achieves an important milestone



*iSimangaliso CEO Andrew Zaloumis says: "iSimangaliso has accelerated the pace of work in the Lake St Lucia Estuary Restoration Programme. As at 30 May 2017, 1.290 million cubic metres had been moved. This translates to almost 95% of the anticipated 1.363 million cubic metres of dredge spoil which will be removed. This R63m project is expected to be concluded in early July, marking an important milestone in the process of ecological restoration for the Lake St Lucia estuarine system."*

*The aerial image above left shows the Lake St Lucia Estuary mouth area in 1937, overlaid with the area under work. The image above right indicates the mouth at the beginning of the dredge spoil removal project in January 2016.*

iSimangaliso started the R63m project in January 2016, with the support of the Global Environmental Facility (GEF) and World Bank. The project followed an extensive consultation process with stakeholders and drew on scientific research on the system. The rehabilitation project comprises the removal of dredge spoil that was artificially placed in the uMfolozi River course by conservation authorities many years ago in a bid to protect the Lake St Lucia Estuary from what were believed to be the possible damaging effects of farming upstream. The uMfolozi River had been canalised and the uMfolozi floodplain drained to make way for some 9100ha of sugarcane farming. The uMfolozi River drives mouth function. Consequently, the mitigation measures to manage the perceived risk from farming disrupted mouth function and caused species mortality and the collapse of *inter alia* prawn fisheries.

Some of the sugar cane farms lie in the tidal floodplain and are affected by backflooding from time to time. Backflooding is part of a natural estuarine process. Notwithstanding the extensive consultation with the Umfolozi Sugar Planters Limited (UCOSP), the body responsible for flood protection on the floodplain, and UCOSPs endorsement of the management plan for the Estuary, UCOSP and two farmers took iSimangaliso to the high court to compel it to breach the mouth. The court found for iSimangaliso and on 21 April 2017 Judge Mohini Moodley handed down her full judgment in the matter between UCOSP, Paul van Rooyen and Petrus Maphumulo, and the iSimangaliso Wetland Park Authority and four others.

“The judgement secures this life line for Lake St Lucia for the greater good. It is still early days, but the first gains are already visible. Nature’s healing has begun,” says Zaloumis.



*Estuarine ecologist Nicolette Forbes commented that “the area being removed by iSimangaliso was shown to be the most important portion of the dredge spoil “island” to remove. Removing the eastern area of the dredge spoil will help to reinstate the hydrodynamic processes and allow a much more natural mouth dynamic to Lake St Lucia”.*

In February last year only 10% of the estuarine Lake’s surface area was covered by water. By May 2017, with good inflows from the uMfolozi River, almost all the Lake’s surface area was covered. The satellite images from July, November 2016 and May 2017 show these progressive improvements in the estuary water levels. Not only has the surface area covered increased but the water depth is now approximately 1 – 1.2m of water throughout the system. Salinities remain low with fresh water conditions throughout the Estuary. Lake St Lucia Estuary’s life blood has been returned and this puts the system in a good position as we move into the naturally dry winter months where we can expect water levels to reduce through evaporation.



*The first Landsat image was taken at the height of the drought in February 2016, when only 10% of the Lake St Lucia surface had water. The second image was taken on 27 May 2017, showing the entire surface area of the Lake St Lucia estuarine system covered in water.*

The summer rainfall (October 2016 – March 2017) to date across the area including Lake St Lucia Estuary and its catchments was in the region of 870mm of rainfall. The system received an additional significant supplement from an unseasonal rainfall event between 11-16 May 2017, with an excess of 300mm received over three days. This contributed to a substantial increase in the water flowing in the uMfolozi River and most of the increase in water level in the estuarine lake can be attributed to the inputs from this catchment. The monitoring data collected indicates the movement of water from the uMfolozi River into the Lake Narrows and northwards to the upper lake portions. This emphasises the importance of the uMfolozi River as a water source for this Estuary. Water also flowed into the Lake from other catchments, such as the uMphathe and uMkhuze Rivers.

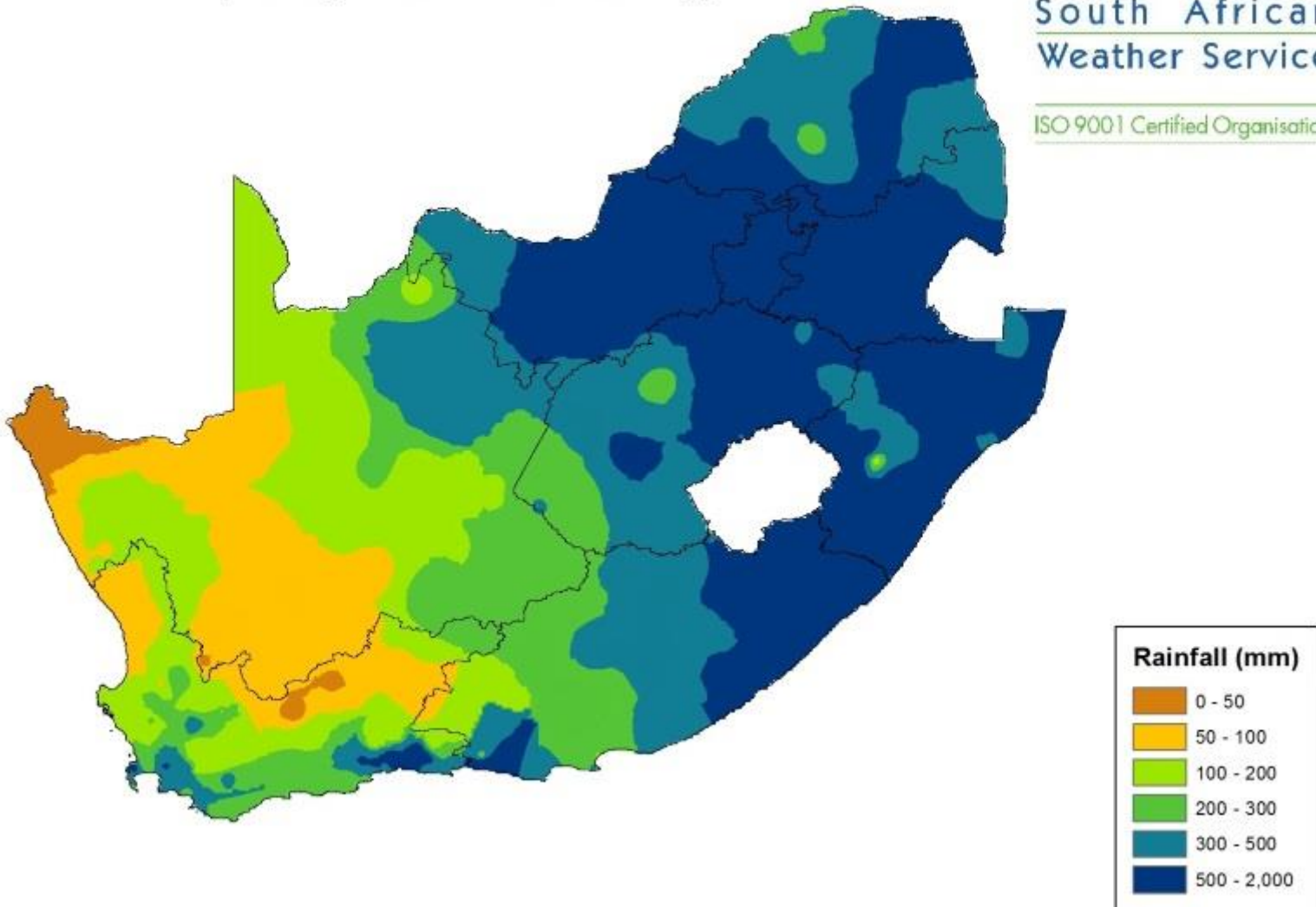
## Rainfall (mm) for season July 2016 - March 2017

(Based on preliminary data, The number of stations vary depending on the data availability)

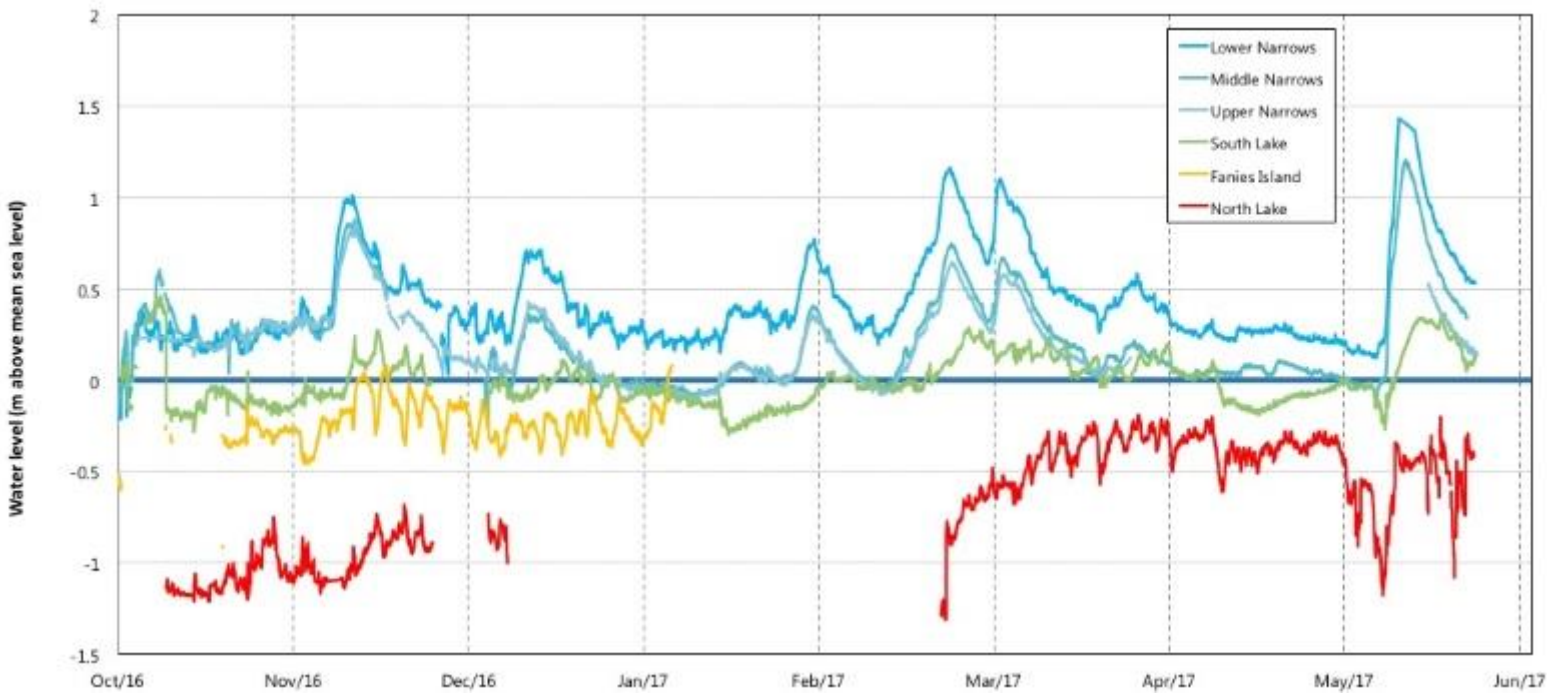


South African  
Weather Service

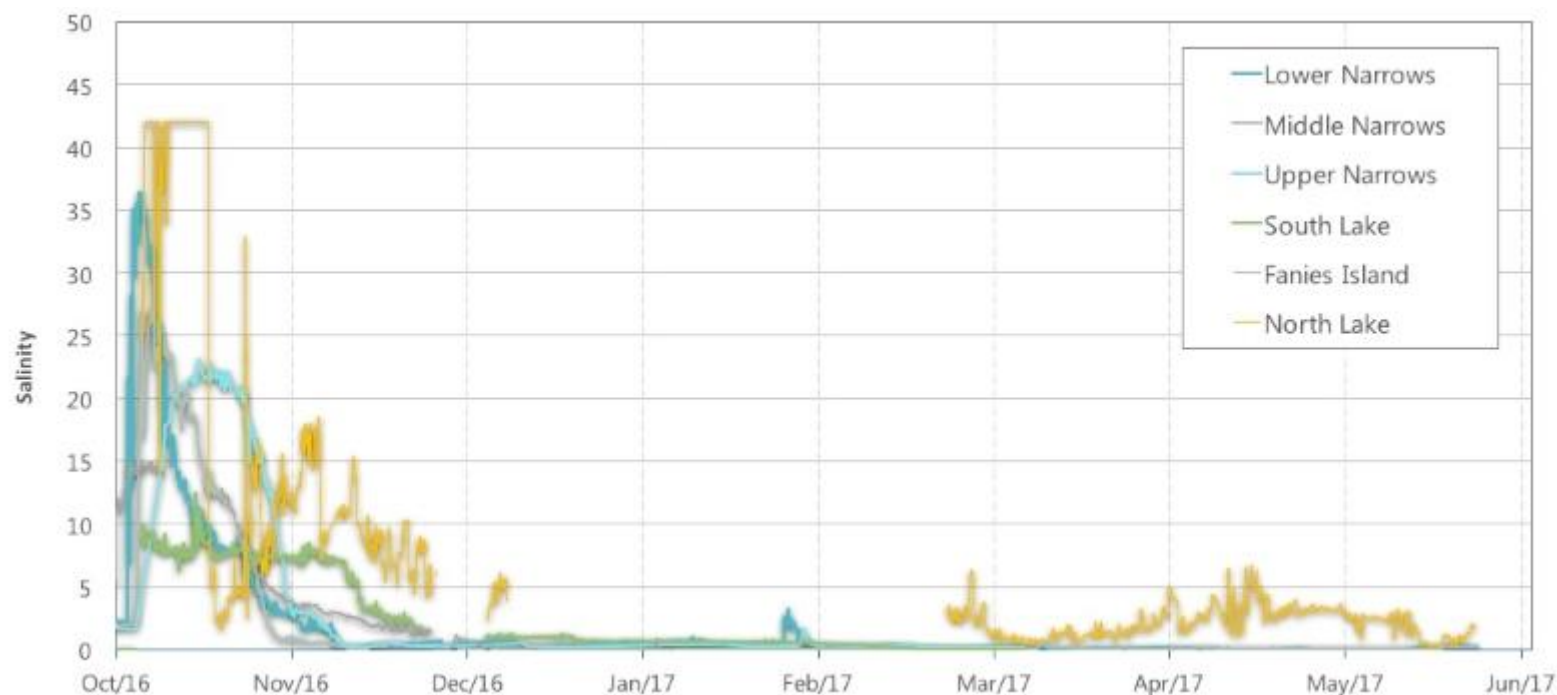
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Above: South African Weather Service data for seasonal rainfall showing that the area where iSimangaliso is situated received good rains between July 2016 and March 2017.



Above: This unseasonal rainfall lifted an already full system even further, resulting in the inundation of previously dry marginal areas. Water depths in the Estuary increased over summer, and the rains in May 2017 produced another sharp increase in water level.



Above: Elevated salinities in the Lake Narrows at the beginning of summer were a direct result of a large wave overtopping event in the first week of October which brought marine water into the Estuary across the sand barrier. The marine salinity conditions in the Narrows following this event can be seen in the graph moving northwards up the Narrows from the lower monitoring station and, after a few days, lifting salinities at the top of the Narrows.

The salinity data shows that with the onset of the summer rains during October and November 2016 these salinities decreased steadily most of the middle and lower reaches of the estuary freshened and has remained fresh through to the end of February 2017 (measurements below salinity of 1 at all stations).

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### Background Information

For several decades, dredge spoil had been artificially deposited in the natural course of the uMfolozi River in an attempt to limit its inflows into Lake St Lucia Estuary in the belief that it would protect the Estuary from silt. This significantly reduced freshwater to Lake St Lucia from the uMfolozi River. The uMfolozi is the largest of the five main rivers entering the system and accounts for some 60% of the freshwater inflows into Lake St Lucia's system. It is also the powerhouse that drives the natural process of the mouth; limiting inflows and significantly narrowing the river course by artificial means also affected this process.

The impacts of the 2002-2012 drought on fauna and flora demanded that this management strategy be interrogated by iSimangaliso. A multi-disciplinary research team was contracted to find a practical and implementable solution to the hydrological problems facing the Lake St Lucia system.

The results of the scientific research strongly recommended that the uMfolozi should be allowed to pursue its natural path into the Estuary. This necessitated the removal of dredge spoil so that the uMfolozi could once again take its rightful place as the contributor of the major part of the Lake's fresh water.

The health of the St Lucia ecosystem is directly linked to the livelihoods of people in the area. The Park is situated in the uMkhanyakude District Municipality, one of the poorest and most underdeveloped local authorities in South Africa. Over 80% of households live below the poverty line and only about 16,5% of the population is formally employed. Some 80 000 people living in 15 000 households within 15km of the Lake St Lucia estuarine system and use the system extensively. Harvests of raw materials, particularly estuarine sedges, is estimated to be worth around R7,5 million a year.

Tourism related to the Lake St Lucia estuary area employs an estimated 1291 direct full-time equivalent jobs and 6924 indirect jobs. There are about 510 000 visitors to the study area per annum, of whom 42% are foreign visitors, that spend R46 million on an estimated 157 000 tourism activities from local operators.

The contribution to fisheries of the Lake St Lucia system is also significant. Of the 155 fish species have been recorded in the St Lucia estuarine system 71 species use St Lucia as a nursery area and at least 24 of these are important in marine line fisheries. During the extended period of closed-mouth conditions from 2002 to 2012, there was virtually no exchange of fish between the estuary and the marine environment. Recruitment failure due to drought conditions and the closure of the St Lucia estuary mouth from 2002 to 2012 resulted in collapse of the Thukela Bank prawn fishery. Similar losses were experienced in other fisheries, for example, R19.3million in 2009/10 loss from shore angling fishery and R 1.06 million loss in the commercial line fisheries at the same time due to reduced estuarine functioning of the Lake St Lucia system.

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For more information on the iSimangaliso Wetland Park, follow us on [Twitter](#), [Instagram](#), [Facebook](#) and [Youtube](#), or visit our website at [www.isimangaliso.com](http://www.isimangaliso.com).

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