

# El Niño threatens southern Africa with yet another drought

By [Mathieu Rouault](#)

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Southern Africa is in for a bumpy, dry ride. There is a 50% chance of a drought occurring this summer that could have an impact on the whole [region](#) which still bears the effect of last year's drought. Any new drought will have a compounding [effect](#).



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During the 2014-15 southern hemisphere summer southern Africa suffered one of the [worst-ever](#) droughts. This severely affected the agricultural sector as well as the economies of the countries in the region. In addition, the drought seriously depleted [water reserves](#).

The current drought in the region is as a result of a powerful [El Niño](#) event. El Niño is a natural and periodic phenomenon that comes back every three to five years and can last for [up to two years](#). It increases temperatures in the Pacific and Indian Ocean which in turn can cause [drought](#) conditions.

During 2015 the Pacific became even warmer leading to one of the strongest El Niño events ever [observed](#). [Research](#) shows that eight of the ten strongest droughts in southern Africa since 1900 occurred during the mature phase of El Niño. It has also been noted that El Niño events have led to a severe drought half of the time they occurred.

The effect of El Niño on droughts has been exacerbated over the past 50 years. This has been because continental and oceanic temperatures have risen globally but not uniformly during due to the increase in [carbon dioxide](#).

El Niño events leading to droughts in the region have been particularly marked since the late 1970s. Most have occurred between December and March. Recent studies show that El Niño has affected summer rainfall with increased dry spells, reductions in the flux of moisture from the Indian Ocean to the continent, and by shifting large scale rain bearing systems to the Indian Ocean.

## Successive droughts over the last century

Over the last century, southern Africa has suffered from dramatic year-on-year changes in climate leading to severe droughts and disturbance in the marine or terrestrial ecosystems. Such variability of climate affects the agricultural industry, water reserves, fisheries and as a result the broader economy. It also affects the flow of water in streams,

vegetation and the fluxes of nutrients into the ocean.

It has a particularly detrimental effect on:

- rural subsistence farmers and fishermen;
- the health of people in rural areas; and
- the management of a sustainable natural environment.

During the last decades research projects have shed a great deal of light on how the oceans can influence the climate of southern Africa. But more research is needed to find out the effects of El Niño. Two critical questions in particular need to be answered:

1. why does El Niño sometimes not lead to drought; and
2. why a weak El Niño can trigger a severe drought while a strong El Niño can trigger a less severe drought.

In addition, more information needs to be gathered on how natural climate events such as El Niño and climate change interact. And there is a serious need to improve our understanding of the impact these large scale variations have on smaller scales. We must also keep in mind that describing the nature of climate variability's impact is essential to being able to anticipate future climate changes and the need to define adaptation strategies.

Given that El Niño does not result in a drought 100% of the time, it is important to establish what measures should be taken in the case of a risk of drought. This would enable countries to prepare for major disturbances which are increasing in frequency as a result of climate change.

El Niño could have dramatic consequences for southern Africa. Food shortage, famine, unrest, economic hardship and further decrease of the gross national [product](#). Hopefully the region will not be hit as hard as it was in the [1997-98 El Niño](#) effect. But we shouldn't gamble on that.

It is imperative for countries, and individual citizens, to take preventive measures for what is now known to be a recurring pattern in southern Africa. This includes selling cattle, restricting water, fixing leaks, planting drought resistant crops and getting ready for a drought.

## ABOUT THE AUTHOR

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