

Is spring happening too soon? Join the SAEON Ndlovu Node in finding out

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Everyone in South Africa seems to have noticed that the weather is unusual for this time of year. Depending on where you live and who you're asking, it's hotter, colder, wetter or drier than anyone can remember. So, as spring becomes the new summer the question being asked by researchers at the SAEON Ndlovu Node: is what exactly is going on?

The simple answer is that the global climate is changing, and the heat is definitely on. At a meeting of the Intergovernmental Panel on Climate Change in 2007, experts and officials accepted that climate change is a human-induced reality. Average temperatures world-wide have increased by almost 1°C in the last century and are predicted to rise by another 5°C by 2100.

With this in mind, a more appropriate question might be – how is the natural world responding to a changing climate? Mounting evidence from studies in the northern hemisphere reveals that deciduous trees are leafing, flowers are blooming and migratory birds are arriving one to two weeks earlier than they did 30 years ago. In essence, spring has sprung - but it's all happening just a little too soon.

By monitoring the timing of biological events (termed phenology) in plants and animals locally, the Ndlovu Node is attempting to understand and respond to the impacts of climate change on South Africa's biodiversity.

“As the timing of important events shift, we anticipate problems for the completion of life cycles in certain organisms; the loss of synchrony between interacting species (especially between plants and

their pollinators), resource limitations and changes in the competitive advantage between species,” says Dr. Dave Thompson, Biodiversity Research Manager at the SAEON Ndlovu Node.

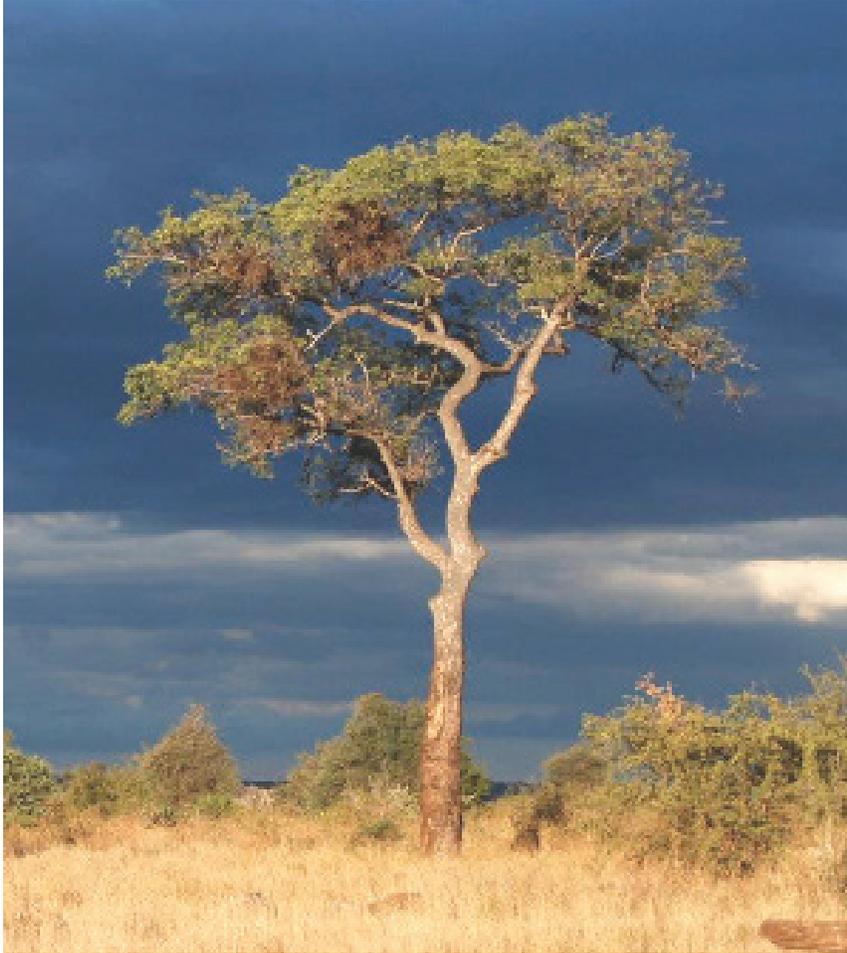
Thompson predicts that these problems will have a negative impact on the composition and organisation of the natural world around us. “It is important to realise that the need to understand and manage climate-related changes is much broader than simply wanting to be environmental good Samaritans,” he explains. “Consider for a moment the impact of failed insect pollination on fruit and crop production – it is a potential food disaster.”

One of the biggest challenges that climate-change biologists face in understanding the response of organisms to the environment is that the effect of recent weather events can mask the effect of long-term climate change. The impact of these very different factors on plants and animals can only be separated by analysing large amounts of data recorded over decades and ideally sourced from many different localities. Unfortunately this is exactly the sort of data that is sorely lacking in South Africa.

In order to address this shortfall SAEON is asking for your help in two new citizen science projects – CLIMATE BUDDY and TURNING A NEW LEAF – which complement the BIRD'S EYE VIEW migration monitoring project launched in 2007.

Citizen science projects invite members of the public, from individuals and families to groups such as schools and environmental / conservation bodies, to participate in observing local biological events that are likely indicators of climate change.

“The depth and breadth of data that can be collected by an organised group of enthusiastic volunteers will allow researchers to conduct studies that would have otherwise been logistically impossible,” explains Thompson.



Above: Climate change is likely to impact the timing of leaf drop and new leaf production by this savanna icon - the Marula tree (*Sclercarya birrea*) - in autumn and spring respectively.

Perhaps the best example of the success of the citizen science phenomenon comes from the Nature's Calendar monitoring initiative in the United Kingdom, where nearly two million dates reflecting seasonal changes have been recorded. "That," comments Thompson. "is why every pair of eyes – and every record – counts."

Involvement in a citizen science project invokes a 'feel good' sense of stewardship, raises public awareness of biodiversity issues and instils responsibility towards the environment. It is an ideal opportunity for ordinary citizens – those non-scientists who wish they could do something to help the environment - to make a meaningful contribution.

You don't have to be an expert or have free time on your hands to participate in the monitoring projects

being run by the Ndlovu Node. BIRD'S EYE VIEW simply asks that people be on the lookout for the first arrival of easily recognisable migrant bird species in their area, and then to catalogue the arrival dates with SAEON.

The two projects launched this season focus on the timing of important and conspicuous plant life cycle events and are geared more towards the keen gardener and amateur botanist. CLIMATE BUDDY is concerned with monitoring the opening dates of flower buds in spring, while the TURNING A NEW LEAF project aims to track spring leafing and autumn leaf drop in deciduous trees.

"Being based in Limpopo means that our focus is currently on savannas and grasslands," says Thompson, "but we welcome observations from anybody who is keen to be involved." cont...