KORSMAN CONSERVANCY NEWSLETTER

SPRING 2024

An Eagle's Eye View

After two dead trees fell down and one live one was cut (the shothole-borer infested plane tree), visiting raptors lost some of their favourite hunting perches. We built three raptor perches to make up for it.

A Long-crested eagle trying it out. The perches are also used by Black-winged kites. Photo: Cathy Price

Raising a 6m gumpole is all in the technique!

Alison Bainbridge spotted two Long-crested eagles together in the tree at Kilfenora, so we know there is a pair. These pictures were taken a day apart.
The female (L) has brownish legs, and the male (R) has white legs.

Goliath Herons Grow Up

In the Winter issue I reported on the nest of Matilda and Georgie, the new breeding pair of Goliath herons, with two chicks in the nest in the centre of the Pan. About 13 weeks after hatching, the chicks fledged. You can see them around the Pan, often begging from the adults.

While the chicks were in the nest, we were able to rig up a trail camera to capture some fascinating new information on this species.

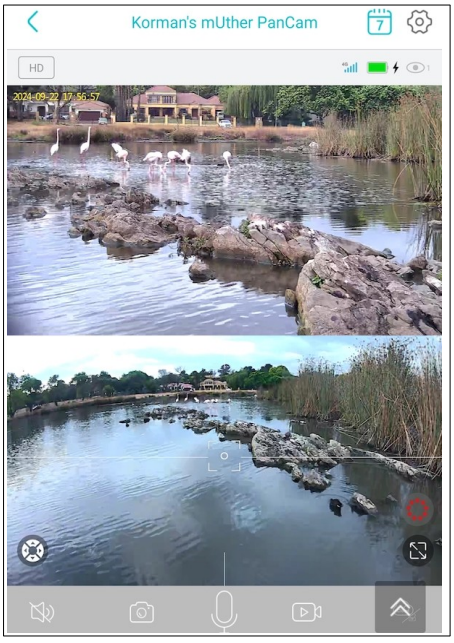
Activity in the nest at night is just as busy as during the day. A Goliath parent has just arrived to feed the chicks, at 01:18am.

The opposite of the myth of ostrich head in the sand: The chicks gazed into the sky when I was working near the nest to rig or remove the camera. Perhaps they were thinking "if we can't see her, she can't see us"

Camera…. Action

Alex Staniland's companies mUther and Special Envoy donated a solar-powered web camera and a year's worth of data, for members to check what's happening in Korsman, day or night. One lens is fixed and wide-angle, and the other one you can pan, tilt and zoom in the app.

To view the camera, download the Ubox app, register and send me your email address. I will add you as a user.
Android: https://play.google.com/store/apps/details?id=cn.ubia.ubox
Apple: https://apps.apple.com/us/app/ubox/id1436112326



Catchment Management

In a joint project with the Johnson Crane Hire marathon, we took action to prevent plastic sachets getting into the storm water kerb inlets.

First, I asked Ekurhuleni to clean the storm water kerb inlets leading down to the Pan. They were full of trash and leaves which would have landed up in the pan with the rains. Ekurhuleni managed to clean four inlets over three days, then permanently disappeared. We took over the job and it went a bit faster: our workers could clean eight inlets before lunch.

Some of the found items are evidence of how long ago the inlets were cleaned.

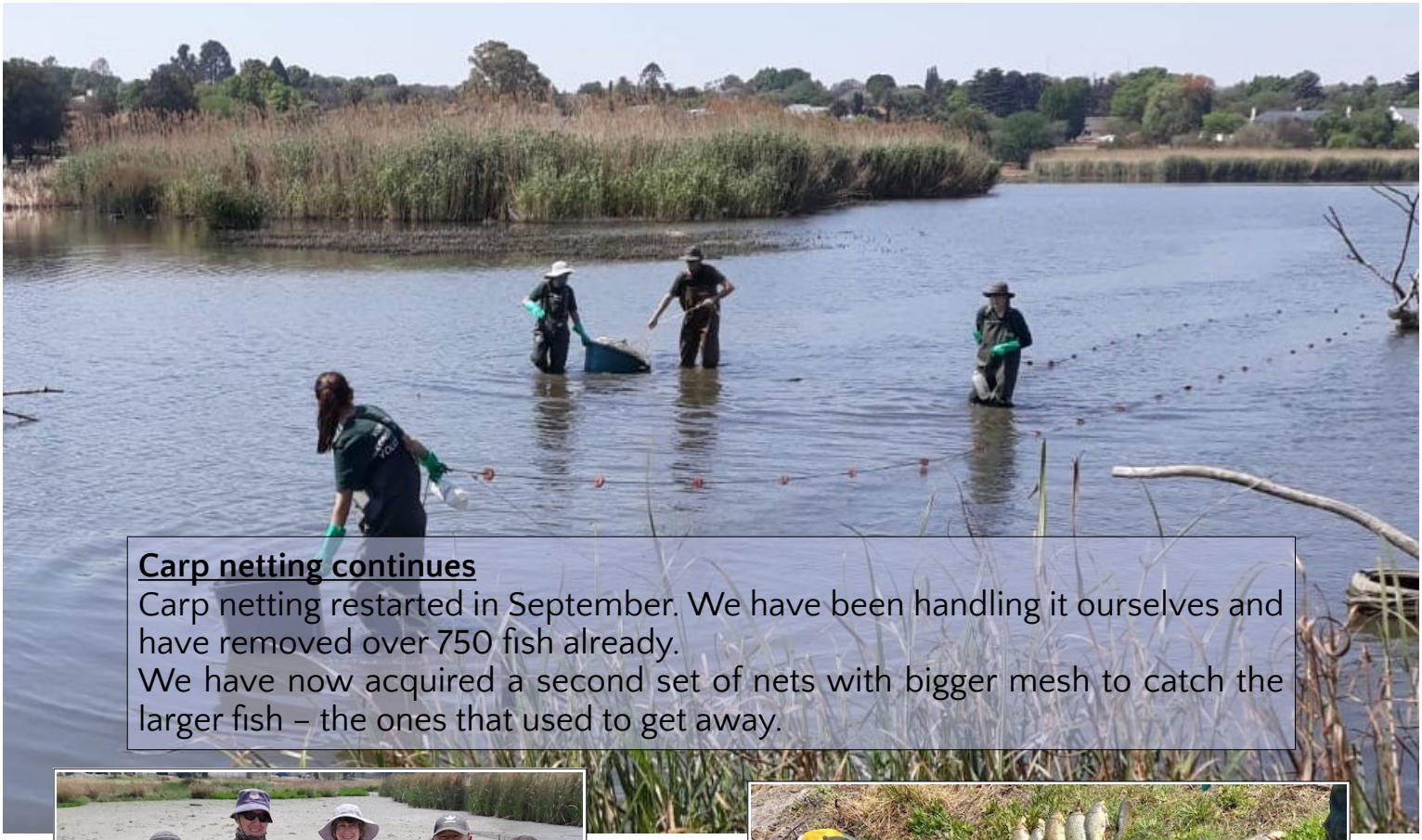
This inlet hadn't been cleaned since email took over from faxes

And this one since VHS tapes made way for DVDs

I discovered that Brand St was the source of the clothes being dumped – a major problem we have hopefully solved. A discarded Persian rug was too big to wash down the storm water pipe.

Many storm water inlets have been used for trash disposal as well as garden refuse – note the palm leaves.

The strong welded mesh will catch litter. We expect a significant reduction in trash washed into the pan.



Carp netting continues

Carp netting restarted in September. We have been handling it ourselves and have removed over 750 fish already.

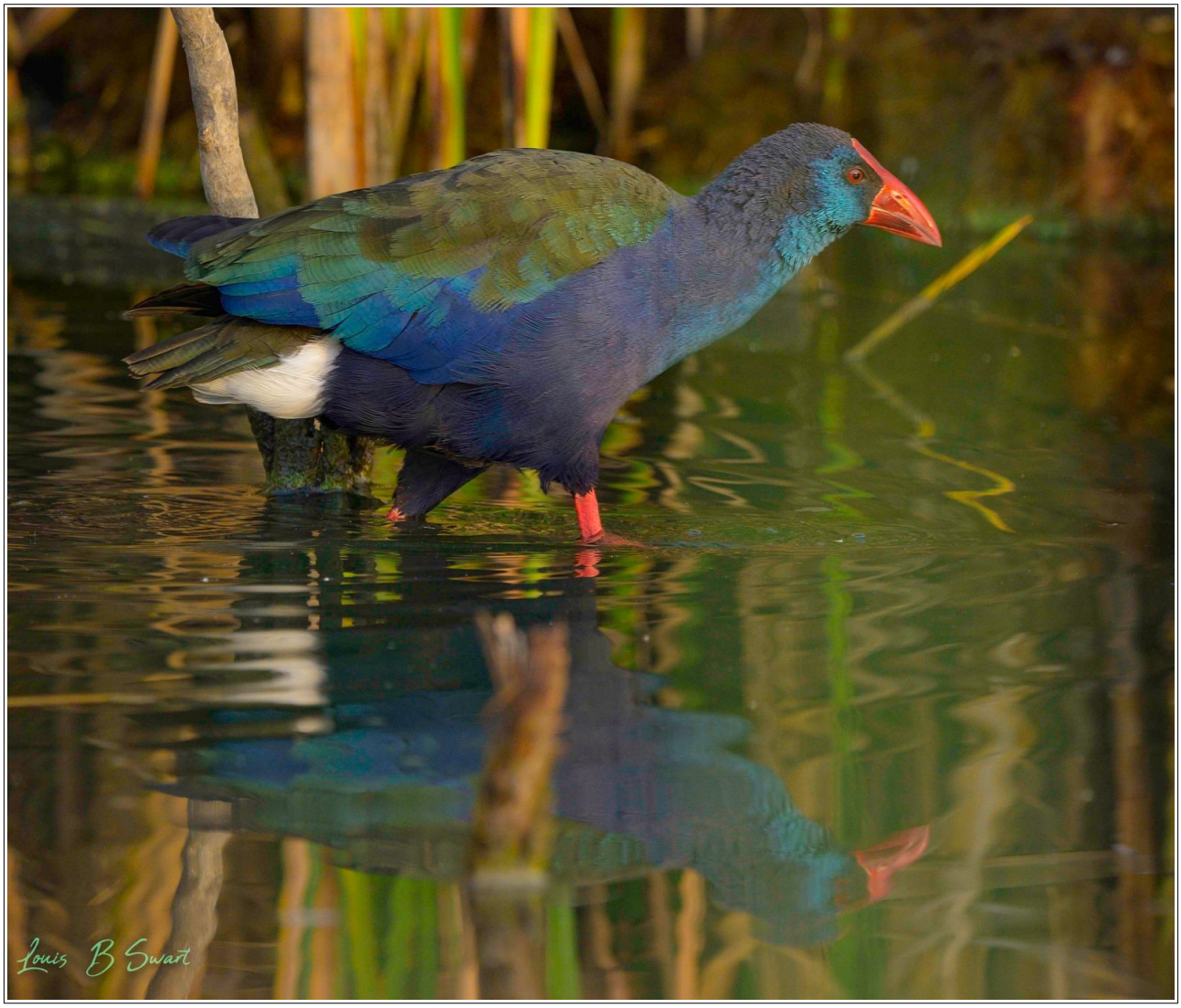
We have now acquired a second set of nets with bigger mesh to catch the larger fish – the ones that used to get away.

These fish with their beautiful and unusual scale patterns are a genetic mutation known as 'mirror carp'. No two are alike.

A Grey Heron has caught an indigenous Banded Tilapia. Carp removal decreases the competition with other species which can now thrive. Photo by Cathy Price.

Spring Colours

Low rainfall has made it a dull Spring, except for this beautiful African Swamphen, photographed by Louis Swart.



Pan Water Level

The pan is the lowest it has been since 2005, when it was recovering from drying up in 2004. We took advantage to do a shoreline litter pickup, where underwater trash is now exposed in the mud.

At the moment the pan is still 1.15m deep at the lowest point, so there is a long way to go before it dries up. Remember, the water level is kept artificially high by the massive municipal leak that runs in at Drury Lane.

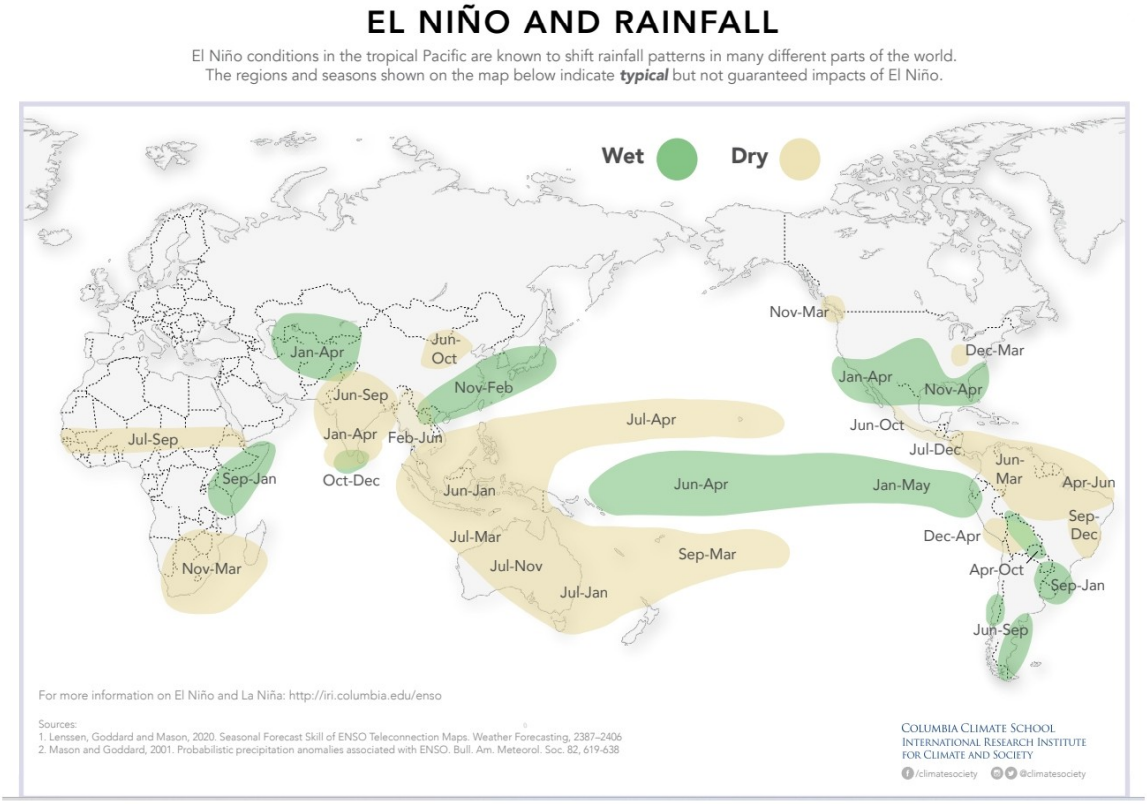
Last season's rainfall of 590mm was well below average, which was expected with the El Niño climate phenomenon. But although El Niño has passed, only 96mm fell between 1 October and the beginning of December. Can we predict our future rainfall? John Livesey did an in-depth study as part of our project on the Pan water levels, and got these results.

Korsman Bird Sanctuary – Actual Rainfall v ENSO Variations
by John Livesey

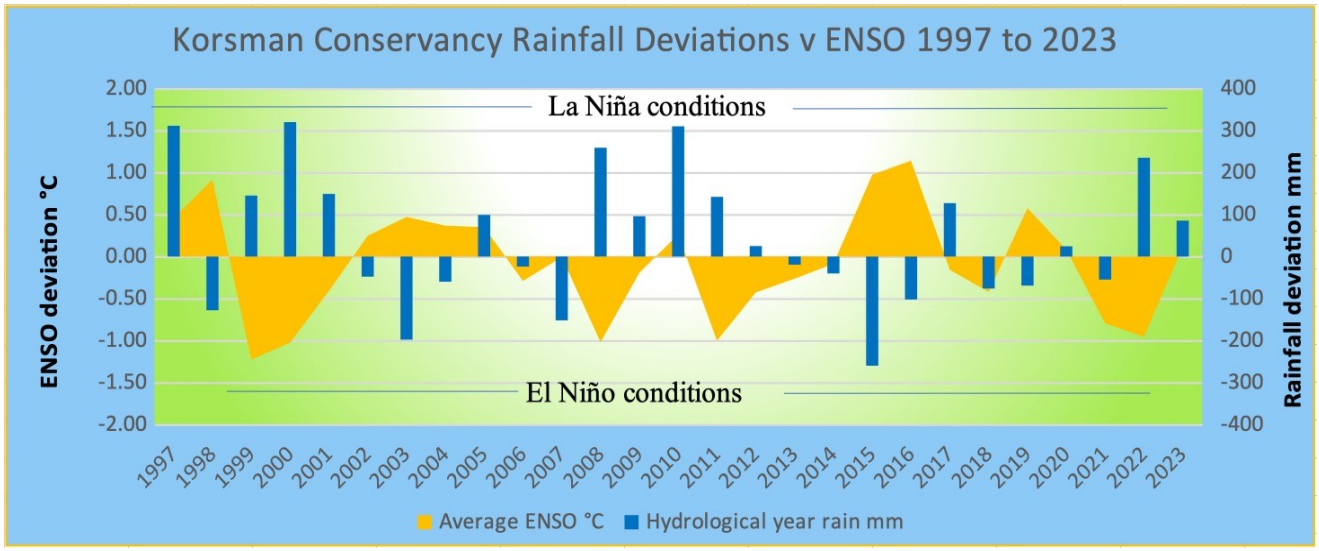
This article looks at the relationship between actual rainfall at the Korsman Bird Sanctuary in Benoni and the El Niño / La Niña phenomenon. The results show that there is a moderate correlation, but that we must plan for all possibilities.

The terms El Niño and La Niña are more familiar than ENSO, or El Niño Southern Oscillation. The two relate to alternating conditions of warmer and cooler sea surface temperatures in a specific portion of the tropical Pacific. The temperature range is 3℃ or, 1.5° either way from normal. The middle band of the range (–0.5 to +0.5) is regarded as neutral and mostly disregarded.

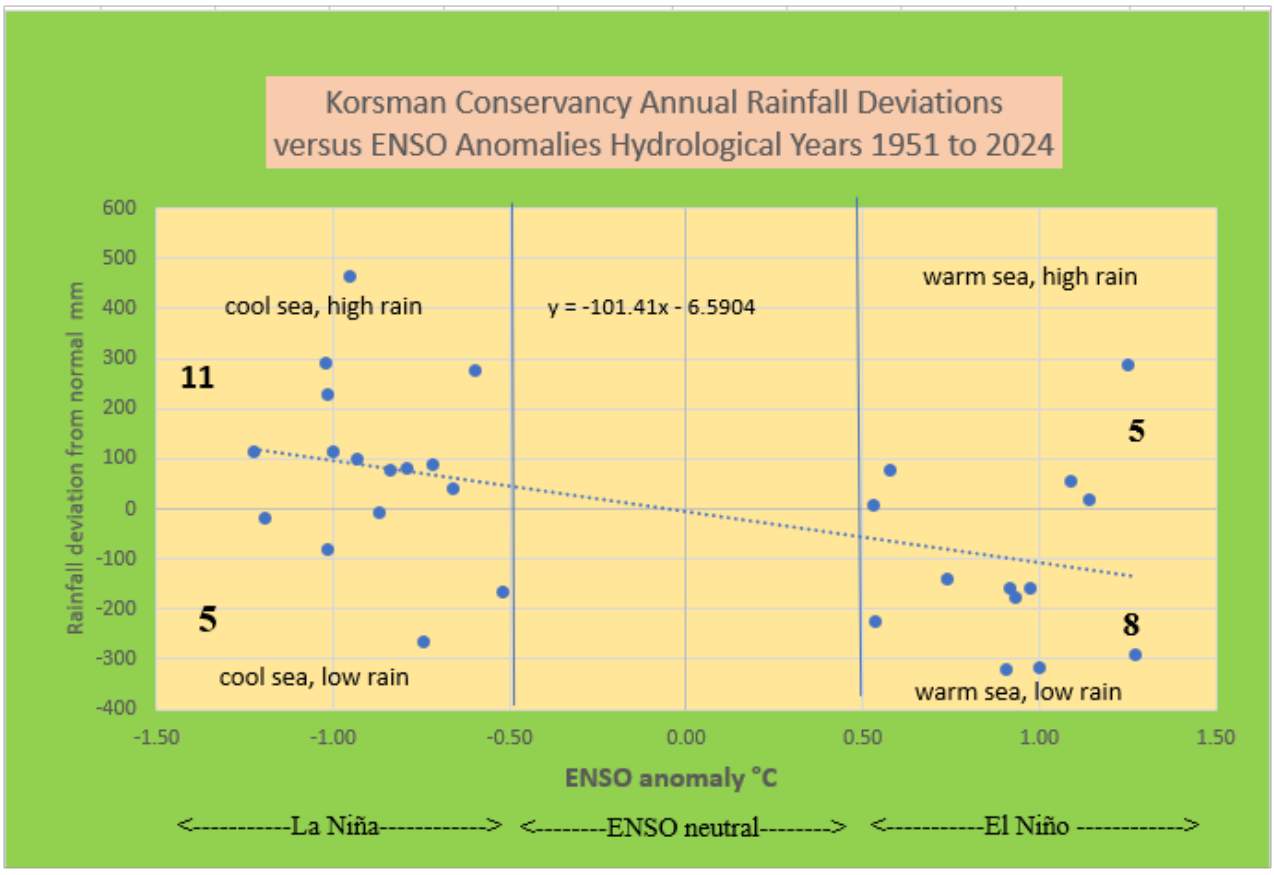
The prevailing view is that the warmer the Pacific sea surface temperature is, the lower the southern Africa rainfall, an inverse relationship. This map shows the commonly held view of dryer conditions in southern Africa under El Niño conditions. The map for La Niña is a reverse.



Korsman's rainfall must be compared with the ENSO temperature variations. For those interested the ENSO data can be found at the following website: https://origin.cpc.ncep.noaa.gov/products/analysis_monitoring/ensostuff/ONI_v5.php



In this chart, the left hand vertical axis for ENSO has an inverse scale so the two distributions coincide or overlay each other. This method identifies the relationship for any particular year. However it is a collection of individual relationships and does not provide an overall result. One way to overcome this is by using a scatter graph where each year's ENSO variation and rainfall is represented by a point. Values for all the neutral years where the deviations from the ENSO average fall in the –0.5 to +0.5℃ range have been ignored. This format allows us to include a best fit trend line, which supports the popular view.



This spread of data points rules out being able to meaningfully predict rainfall for a particular deviation, only giving a rough probability. Excel does provide formulas for its trend lines on the charts so the 'middle of the range rainfall' can be derived from this formula or from the graph.

I should add a note here. Global warming should not necessarily imply gradually warming seas and therefore lower and lower rainfall. In fact, the people who calculate the ENSO numbers periodically rebase it so that the variations remain centred on an average baseline relevant to the current period, even though that baseline is reflecting increasing temperatures.

The standard method of determining whether two distributions are related is by comparing the pairs of values and calculating a correlation coefficient. The coefficient can take any value from –1 to +1. A zero value indicates no relationship whatsoever. Close to +1 says they move in line with each other and –1 indicates they move together, but inversely, as for example might be the case with a car's value versus km on the clock. For the period 1951 to 2024 under review here the correlation coefficient, excluding the neutral years of +0.5 to 0.5°, is –0.454.

This means that there is only a moderate correlation of our rainfall to ENSO. For planning ahead involving forecasting of annual rainfall at Korsman, one would have to keep all possibilities in mind.

Hoping for rain.... Photo by Eugene Liebenberg