

# African Journal of Range and Forage Science



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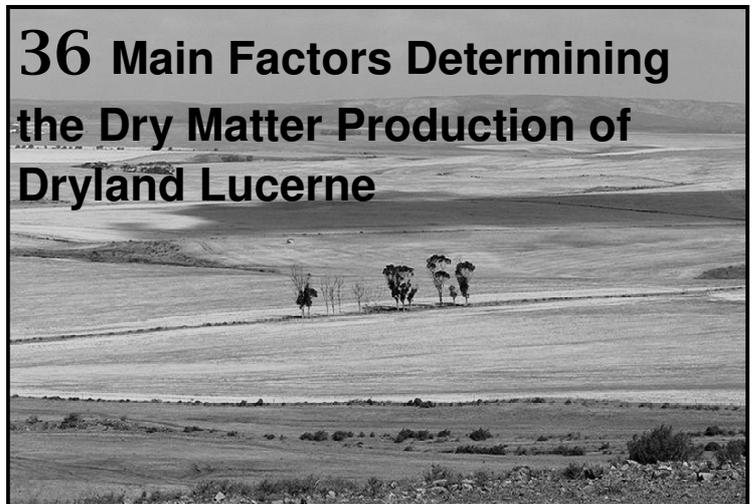
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### **36 Main Factors Determining the Dry Matter Production of Dryland Lucerne**



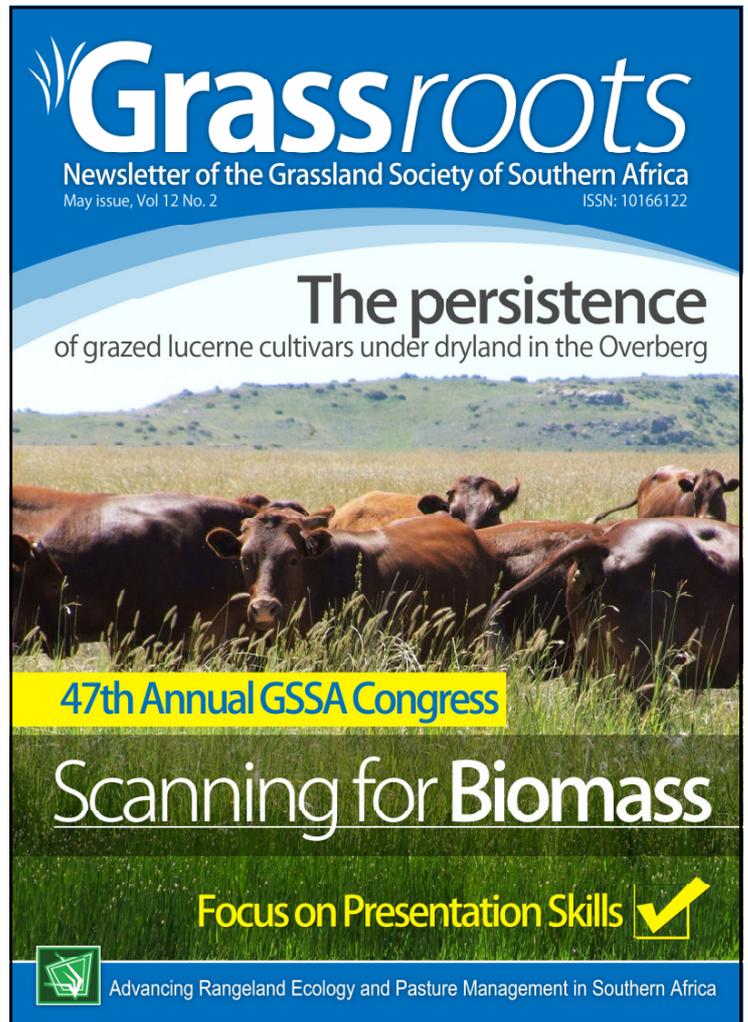
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## Grassroots Online

Visit us online and peruse our searchable database of papers, past issues and upcoming events.

[www.grassland.org.za](http://www.grassland.org.za)



### On The Cover:

Cattle cover photograph by our Honorary Treasurer: Justin du Toit

The Grassland Society of Southern Africa is dedicated to the advancement of the science and practice of range ecology and pasture management.

We welcome any contributions to the Grassroots, in the form of news, informative articles, reports, short research notes, scientific papers and letters to the Editor. For information and submission specifications Email: Julius at [jtjelele@arc.co.za](mailto:jtjelele@arc.co.za) or [admin@grassland.org.za](mailto:admin@grassland.org.za) fax us +27 (0)86 622 75 76

# Editor's Note



**W**elcome to the 2<sup>nd</sup> edition of Grassroots for 2012. The 47<sup>th</sup> Annual GSSA Congress to be hosted by Western Cape Province at Club Mykonos in Langebaan is around the corner. Apart from the great line-up of speakers, the place is out of this world. For sure you don't want to miss this year's congress. Start looking for funds and permission to attend the Congress before it's too late.

The Minister of Higher Education has announced that Professors and Lecturers from Universities will retire at 80 and not 60 years as it was in the past. This is to help train desperately needed skills professionals. But the question I have to young GSSA scientists is this, are you taking advantage of our experienced professors?

This issue of Grassroots features an article on 'Presentation skills' – this came at the right time with the Annual GSSA Congress coming. We are also focusing specifically on Dryland Lucerne in the Overberg region with three bumper features on the subject.

I hope you will enjoy this issue of Grassroots. See you in the Western Cape, Langebaan.

*Julius Tjelele*

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## Profs: Retirement at 80 years

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**J**ohannesburg-South Africa is considering increasing the retirement age for university professors from 60 to 80, in a move welcomed by the National Tertiary Education Union (NTEU). Higher Education Minister Blade Nzimande said it was counter-productive to let university professors and lecturers retire at 60, when they could still help train desperately needed skilled professionals.

“We welcome the suggestion; we think it would play a remarkable role in retaining skilled academics,” NTEU President Norman Kemp told AFP. “Universities are struggling to attract the right people; younger people are not interested in joining academia. They prefer the private sector.”

Sixty is the national retirement age for academics, though universities can extend professors’ tenure on a case-by-case basis.

“The average age of a South African academic as of 2012 is 59, so we are looking at this within the broader scheme of revitalizing the academic profession,” Nzimande told a press conference.

SAPA-AFP



# Grassland Society of Southern Africa

Advancing Rangeland Ecology and Pasture Management in Africa



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## SAEON Forges New Friendships at COP17

*Beate Hölscher, Research Administrator, SAEON*

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*SAEON's participation in COP17 held in Durban from 28 November to 9 December 2011 proved to be a worthwhile exercise in terms of exposure, branding and networking.*

**T**he principal purpose of COP17 was to develop legally binding international agreements through international negotiations to help mitigate climate change by controlling emissions of greenhouse gases. Apart from the central negotiations, a Climate Change Response (CCR) Expo was held adjacent to the Durban International Convention Centre where the main negotiations took place.

### **Global Change Grand Challenge**

SAEON exhibited under the banner of the Department of Science and Technology's Global Change Grand Challenge at the CCR Expo, along with the Africa Centre for Climate and Earth Systems Science (ACCESS), the South African Risk and Vulnerability Atlas and *Inkaba ye Africa* Earth Systems Science. The eye-catching exhibition stand focused on SAEON's contribution towards understanding climate change impacts.

### **Constructive Discussions**

A guest register was available for visitors interested in recording specific comments or in receiving SAEON's electronic newsletter. In the process valuable contacts and networks were established.

SAEON's Beate Hölscher and Sue van Rensburg distributed CDs containing recent SAEON publications and a bookmark with information on the International Long Term Ecological Research (ILTER) Network. SAEON Managing Director Johan Pauw was on hand to attend to visitors between participating in COP17 side events.

The DST is gratefully acknowledged for carrying the cost of the floor space. SAEON would also like to thank the DST's Kogilam Iyer and Leluma Matooane for their arrangements and interface with the organisers, as well as Jennifer Russell for kindly offering accommodation to Sue and Beate at no cost.

*SAEON Newsletter*



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# SAEON Assists in Building Data Intensive Research Infrastructure for SA

*Wim Hugo, Systems Engineer, SAEON*

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**T**he Centre for High Performance Computing (CHPC) recently launched its DIRISA (Data Intensive Research Infrastructure for South Africa) initiative aimed at empowering scientists to collect massive amounts of data, marking an important step towards solving complex problems like global climate change. Responsibility for the establishment and operationalization of domain-specific resources to serve specific communities has been allocated to SAEON Systems Engineer Wim Hugo.

## **Domains**

The domains under consideration include Earth and Environmental Sciences, Social and Economic Science, Astronomy, and Bioinformatics and Health.

DIRISA has, as a backbone, petabyte-sized storage facilities, currently situated at CHPC in Rosebank, Cape Town, and at CSIR in Pretoria. Policies are available that allow near-real time replication of data objects from one physical location to the other, resulting in very robust fail-over and disaster recovery infrastructure. Data intensive computing capabilities are fundamental for advancing data-intensive sciences, as well as huge volumes of complex data related to energy, health and national security.

## **Technical Roadmap**

A workshop was conducted on 8 December 2011 at the CHPC Annual Meeting at the CSIR in Pretoria, where stakeholders had the opportunity to showcase their work and to collaborate on setting requirements and a collective vision for what DIRISA should provide. The findings of the workshop have been circulated to stakeholders for comment, and will be published shortly, together with a Technical Roadmap to guide the development of DIRISA. In addition to the domain-specific initiatives, three pilot implementations are envisaged for DIRISA during 2012:

- Testing the benefits of the replicated large storage capacity with multi-dimensional, file-based data sets such as typically encountered in atmospheric, ocean, and climate data;
- Evaluating the feasibility of using the storage capacity for 'long tail' type content management systems, involving potentially millions of meta-data records and data objects; and
- Using the infrastructure to host a preservation platform that manages format and physical integrity – this will be available as a secondary archiving and preservation service.

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## Scanning for Biomass

*Dr Tony Swemmer, Manager, SAEON Ndlovu Node*

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**D**r Robert Washington-Allen from the USA recently visited the SAEON Ndlovu Node in Phalaborwa and brought one of his favourite toys with him, a terrestrial laser scanner (TLS).

A TLS is a high-tech laser device originally designed to create three-dimensional images of construction sites for use by architects and engineers. It shoots out thousands of laser pulses a second, which reflect off surrounding objects and bounce back to the scanner, a fraction of a millisecond later. The position and return time of hundreds of thousands of these laser returns are recorded as the TLS rotates, creating a high-resolution, 3D image of whatever surrounds it.

### **Pioneering New Methods**

In recent years a few creative and tech-savvy ecologists have begun exploring this technology for collecting ecological data, pioneering new methods for measuring vegetation structure that may revolutionise certain fields of ecology. Some of the Ndlovu Node's vegetation monitoring sites were scanned to compare the accuracy and efficiency of using a scanner with conventional field methods.

**“The Use of a Terrestrial Laser Scanner may Ultimately Allow for Much Faster and Cheaper Measurement of the Productivity of African Ecosystems.”**

Detailed manual measurements of vegetation structure already exist for these sites, making them an ideal location for those with the technological expertise, such as Dr Washington-Allen, to test this new technology under “working conditions”. The use of a terrestrial laser scanner may ultimately allow for much faster and cheaper measurement of the productivity of African ecosystems.

Much of the scanning work was done at the Letaba Exclosure in the Kruger National Park, a large research site that includes a fenced area that keeps elephants and other large herbivores out. Big differences in the height and spread of the trees and the quantity of grass exist inside the exclosure thanks to years of protection from mega-herbivores.

A comparison of scans done inside and outside therefore provided an excellent opportunity to test how well a TLS performs at sites varying greatly in vegetation structure

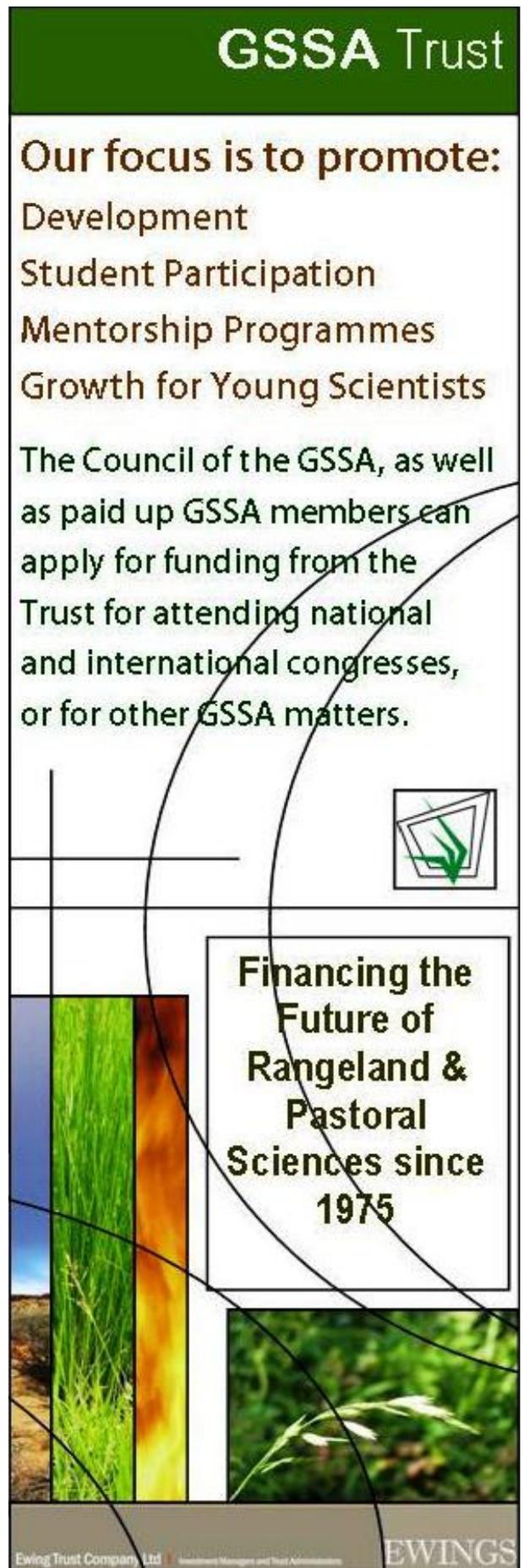
### Testing TLS on African Eco-Systems

While laser scanners have been used successfully in the northern Hemisphere for trees ranging from forest giants to shrubs, they are only now being tested in African savanna environments. The use of a TLS for measuring grass biomass is also something new, and Dr Tony Swemmer is particularly hopeful that this will produce useful results, as the conventional method for measuring grass biomass includes many long hours in the hot sun, clipping grass tufts by hand.

The use of a TLS may ultimately allow for much faster and cheaper measurement of the productivity of African ecosystems.

Dr Washington-Allen is an Associate Professor of Environmental Monitoring and Assessment, based in the Ecosystem Science and Management Department of Texas A&M University.

He was accompanied by an MSc student, Alfredo Delgado on his brief visit to South Africa in August.



**GSSA Trust**

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# 47th Annual GSSA Congress: Advancing Rangeland Ecology and Pasture Management in Africa

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**T**he Annual Congress will be hosted by the Western Cape Province at Club Mykonos in Langebaan from 16 to 20 July 2012. The preliminary programme, planned mid- and post-Congress tours, registration fees and other information is now available.

The Annual Congress will be hosted by the Western Cape Province at Club Mykonos in Langebaan. The Greek-themed resort is on the shores of the Langebaan Lagoon about 120kms north of Cape Town (airport shuttle available). The town of Langebaan was originally a whaling station but has been transformed into a idyllic seaside destination for holiday-makers.

The Lagoon is part of the Cape West Coast Biosphere Reserve, is a RAMSAR site, temporary home to migratory birds from as far afield as Russia and nursery to a population of Southern Right whales. The Society is looking forward to a Congress where everyone can stay together for easy networking and experience the magic of the West Coast!

## Special Sessions, Workshops & Invited Speakers

Several special sessions and workshops with invited keynote addresses are being organised in addition to the standard sessions. Further details will become available over the coming weeks BUT if you would like to submit an idea, please do so as soon as possible. Organisers of special sessions, workshops, etc. are encouraged to publish contributions in a special issue of the African Journal of Range and Forage Science. Remember that page charges for all papers published by members of the Grassland Society of Southern Africa will be ZERO!!

## Confirmed Special Sessions, Standard Sessions & Workshops

- Rangeland Fire Ecology
- The Whole and the Sum of the Parts: Exploring Alternative Approaches to Rangeland Management
- Soil Quality for Sustainable Pasture Production
- Payment for Ecosystem Services: Putting Rangelands into the Mix Sustainable Planted Pasture Systems

## Confirmed Speakers Include

- **Dr Alan Anderson** (Chief Research Scientist, CSIRO Tropical Ecosystems Research Centre, Australia) will be addressing the topic, *Burning or biodiversity in tropical savannas: the Australian experience*, in the Rangeland Fire Ecology session
- **Dr Anthony Mills** (CEO, AfriCarbon (Pty) Ltd and C4 EcoSolutions (Pty) Ltd, South Africa) will be addressing the topic of *Carbon sequestration and plant-soil relationship*, in the Soil Quality for Sustainable Pasture Production workshop
- **Mr Jozua Lambrechts** (Associate Consultant, Savory Institute, South Africa) will be addressing the topic, *Holism: The future of range management to address global challenges*, during the special session, *The Whole and the Sum of the Parts: Exploring Alternative Approaches to Rangeland Management*
- **Dr Urs Kreuter** (Professor, Texas A & M University, USA) will be addressing the topic, *Rangeland sustainability, capital and investment in ecosystem services: A social ecological systems approach*, in the session, *Payment for Ecosystem Services: Putting Rangelands into the Mix*

## Mid-Congress Tours

1. Vula Environmental Services: A Scientific Approach to Environmental Rehabilitation at the West Coast Fossil Park: When the West Coast was WILD!
2. Khwa ttu: A Celebration of the San Culture, Present and Past
3. Cape West Coast Biosphere Reserve: Focus on Langebaan RAMSAR Site and Educating Future Generations
4. Buffelsfontein Game Reserve: A Novel Approach to Alien Control

## Post-Congress Tours

1. Malgas Island & Verlorenvlei
2. Robben Island & Table Mountain
3. Darling/Riebeeck Kasteel Wine Route

