



SSAG

SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

SSAG NEWS 2021/22

SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

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FOREWORD

I would like to introduce the 2022 Society of South African Geographers newsletter by thanking Ndidzulafhi Innocent Sinthumule and Nerhene Davis for compiling the newsletter and to thank the many departmental representatives who prepared contributions. These documents stand as a fantastic record of the discipline of Geography over time and we therefore signal our appreciation to those who have worked to produce them.

Reflecting back on our attempt to capture the mood and circumstances of a year ago, we can probably agree that things feel quite different now. As we published our last newsletter, we were embarking on a second year of enormously disrupted academic life. We were in between the two most deadly waves of Covid in South Africa – peaking in December 2020 and June 2021. Vaccines were yet to become widely available and poverty was deepening. The riots and looting in July 2021 seemed to confirm a general feeling that that society was at breaking point.

In the early months of 2022, the outlook seems have changed considerably. Our anxieties remained heightened, but are attached increasingly to the war in Ukraine, which is generating its own tragedies and shocks. Although the menace of Covid has not done its last damage, the prospect of a fifth wave seems very different given the widespread availability of vaccines and the lower fatalities that result from this variation from the virus. While a great deal of teaching and work continues to happen online, more of us are now back in the office and associating in person freely. And although the state of disaster has not quite gone, there is, for the first time in two years, no curfew. It has been good to welcome visiting academics and other travellers again, and to plan for a hybrid society conference at the University of Pretoria in September. Some of us are planning travel that would have been unthinkable a year ago.

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For many staff and students, the strains and difficulties remain very intense indeed. It is therefore remarkable to see the volume of publications and graduations listed in this newsletter. The society commends all those active in the discipline for the work that they do in creating and transferring knowledge in the field of Geography.

General society news

Gold Medals and Fellowships

Gold Medals and Fellowships are the most senior awards made by the society, and it does this every two years. A call for nominations was circulated to SSAG membership in September 2021. Four previous recipients agreed to be reviewers of the nominations. The council supported the reviewers' recommendations to grant gold medals to Clinton van der Merwe and Serena Coetzee (UP), and fellowships to Luke Sandham (NWU), Ronnie Donaldson (Stellenbosch) and Trevor Hill (UKZN). We will present these awards formally at the conference in September 2022, but for now we convey our sincere congratulations to these recipients and our appreciation for their contributions to the discipline and the society. We also thank those who compiled these nominations (generally without the knowledge of the nominated individuals).

Biennial and student conference: Rhodes University 2021

The Biennial academic conference was hosted by Rhodes in the week of 6 September 2021. We would like to convey our thanks once again to Ian Meiklejohn and others at Rhodes for their hosting of these events. The conference was a joint conference with the Southern African Association of Geomorphologists (SAAG), and we are enormously indebted to Christel Hansen at the University of Pretoria (and president of SAAG until the end of the conference) for her role in putting together the joint conference. Participation in sessions was high – in fact higher than one might get in some in-person sessions. It was a great pleasure indeed to see the research that everyone is producing and to be in some contact with everyone.

The academic conference was followed by the annual student conference also hosted at Rhodes and organised in particular by Philippa Irvine, to whom we are also extremely grateful. This had 94 participants from 17 universities. There were 11 posters, 83 oral presentations and 1 video. 29 of these contributions were on Physical Geography, 37 on Human Geography, 17 on Human-Environment interactions and 12 Spatial Technologies.

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Southern African Geographical Journal

The SAGJ editors – David Hedding and Ashley Gunter – reported to Council that the number of issues being published each year has now increased from three to four (2021 was the first year with four issues). In 2021, the journal received 89 manuscripts, 48% proceed to review, and that the acceptance ratio is 32%. In 2021, there were 29 516 full text downloads of articles and the Impact Factor for 2020 was 2.65.

South African National Geography Olympiad (SANGO)

During 2021, the organisers convened Olympiads for learners at different levels and fielded a team in the International Olympiad. In 2022, the National Olympiad is scheduled for 17 May (Grades 10, 11 and 12), a primary Olympiad is scheduled for 7 June (Grades 6 & 7), and a Junior Olympiad is scheduled for 20 September. The Olympiad is now a registered NGO.

Writing workshop

Onesimo Mutanga and Adrian Nel put out a call for a writing workshop which was held on 9 September 2021. The eight participants benefitted from input on their draft papers at this workshop.

Students and New Professionals (SnP) Group

This is a self-organised grouping which was until recently chaired by Julia Giddy and is now chaired by JJ Gregory. One of the activities of this group has been to recruit younger members of the Society of South African Geographers. Another has been to organise a series of workshops for

members of the SnP group.

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Name of department:

- Geography Environmental Management and Energy Studies

Head of department:

- **Prof. Kelso C**; Associate Professor - Climate and Environmental History
Rural livelihood vulnerability
Impacts of climate change on rural livelihoods
Environmental ethics and justice
Historical climatology ckelso@uj.ac.za
0115592432

Information about the Geographers and their area of specialisation in the department:

- Prof. Curtis C; Professor- Biogeochemistry & Aquatic Science cjcurtis@uj.ac.za 011 559 4745
- Prof. Rampedi I; Associate Professor- Environmental Management isaacr@uj.ac.za 011 559 2429
- Prof. Tesfamichael SG; Associate Professor- GIS & Remote Sensing sgtesfamichael@uj.ac.za 011 559 3927
- Prof. Hoogendoorn G; Associate Professor- Tourism Geography ghoogendoorn@uj.ac.za 011 559 4628

- Prof. Yessoufou K; Associate Professor- Environmental Management kowiyouy@uj.ac.za 011 559 2434
- Dr. Langerman K ; Senior Lecturer- Energy Studies, Air Quality Management klangerman@uj.ac.za 011 559 2439
- Dr. Sinthumule I; Senior Lecturer- Transfrontier Conservation, Environmental Conservation and Society Border Studies, Environmental Geography, Land Reform and Political Ecology & Traditional ecological knowledge isinthumule@uj.ac.za 011 559 3810
- Dr. Schoeman DC Lecturer; Waste and Environmental Management theas@uj.ac.za 011 559 3226
- Dr. Modley L; Senior Lecturer- Environmental Monitoring and Management lee-annm@uj.ac.za 011 559 3928
- Dr. Kambule N; Lecturer- Energy Studies nkambule@uj.ac.za 011 559 4423
- Mrs. Block EK; Lecturer- Human Geography & Environmental Education eblock@uj.ac.za 011 559 2173



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Geographers continued:

- Ms. Rabumbulu M; Lecturer- Geomorphology mrabumbulu@uj.ac.za 011 559 3302
- Dr. Mushawemhuka WJ; Lecturer-Tourism and Climate change GIS & Remote sensing williamjm@uj.ac.za 011 559 3889
- Ms. Stockigt L; Lecturer- Human Geography lstockigt@uj.ac.za 011 559 4452
- Ms. Greenberg D; Lecturer- Physical and Environmental Geography dgreenberg@uj.ac.za 011 559 4799
- Dr. Fundisi E; Lecturer - GIS & Remote Sensing emmanuel@uj.ac.za 011 559 3645

Exciting

departmental news:

The UJ Department of Geography, Environmental Management & Energy Studies (GEMES) appointed two Visiting Professors, Prof Chris Evans and Prof Neil Rose.

Dr Simbarashe Nyuke joined the GEMES department as a post-doctoral candidate. He will be working jointly with GEMES and the Gauteng Regional Observatory in forming part of the NRF Off-Grid Cities research project.

In November 2021, Dr. Kristy Langerman was interviewed by eNCA and Newzroom Afrika about Eskom's emissions in the context of COP26.

Prof Chris Curtis and Dr. Kristy Langerman were invited to be panelists for the Gauteng Environmental Research Conference on 15 October 2021

Prof Chris Curtis of GEMES gave a public lecture on 3rd September on "Water (in)security in Gauteng's rivers and wetlands" which has been viewed more than 580 times on Youtube:
<https://www.facebook.com/ujfacultyofscience/videos/278926094042751/>

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departmental news continued:

Link to talk on Womanity in Africa

<https://womany.africa/2021/11/17/climate-change-and-gender-with-prof-clare-kelso-university-of-johannesburg/>

2021/2022 List of publications:

Abrahams, Z., **Hoogendoorn, G.** and Fitchett, J.M. (2022). Glacier tourism and tourist reviews: an experiential engagement with the concept of 'last chance tourism'. *Scandinavian Journal of Hospitality and Tourism*, 22(1), 1-14.

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Mushawemhuka, W., **Hoogendoorn, G.** and Fitchett, J.M. (2021) Implications of misleading news reporting on tourism at the Victoria Falls, Zimbabwe. *Weather, Climate and Society*, 13(4), 1015-1025. *ISI

Mushawemhuka, W., Fitchett, J.M. and **Hoogendoorn, G.** (2021). Towards quantifying climate suitability for Zimbabwean nature-based tourism. *South African Geographical Journal*, 103(4), 443-463. *ISI

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Hoogendoorn, G., Stockigt, L., Fitchett, J.M. and Saarinen, J. (2021). Adapting to climate change: the case of snow-based tourism in Afriski, Lesotho. *African Geographical Review*, 40(1), 92-104. *Scopus

Azong, M. and Kelso, C.J. (2021) Gender, Ethnicity and Vulnerability to Climate Change: the case of matrilineal and patrilineal societies in Bamenda Highlands Region, Cameroon. *Global Environmental Change*, 67: 102241. <https://doi.org/10.1016/j.gloenvcha.2021.102241>

Hart, A, Biggs, S., Scott-Bottoms, S., Buttery, L., Dennis, S., Duncan, S. Ebersöhn, L., Flegg, M., Kelso, C. Khaile, N., Mampane, R.M, Mampane, N.S., Nash, D., Ngoma, R. and Theron, L.C. (2020). Negotiating leadership in interdisciplinary co-productive research: a case study of an international community-based project between South African and the United Kingdom. Sage Open. DOI:

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Sinthumule, N.I. Window of Economic Opportunity or Door of Exclusion? Nandoni Dam and Its Local Communities. *Sustainability* 2021, 13, 2502. <https://doi.org/10.3390/su13052502>

Daniel Hammett (2021) From banal to everyday nationhood, *Geography*, 106:1, 16-24, DOI: [10.1080/00167487.2020.1862578](https://doi.org/10.1080/00167487.2020.1862578)

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Publications continued:

Sinthumule, N.I.; Mugwena, T.; Rabumbulu, M. The Conflict between Preserving a 'Sacred Natural Site' and Exploiting Nature for Commercial Gain: Evidence from Phiphidi Waterfall in South Africa. *Sustainability* **2021**, *13*, 10476. <https://doi.org/10.3390/su131810>

M Mbedzi, MP Tshisikhawe, S Rahlao, IN Sinthumule – 2021 [The Rate of Regeneration of Native Plant Species After Eradication of Invasive Alien Plant Species \(*Acacia Decurrens* Willd.\) in the Limpopo Province, South Africa.](#)

Ndidzulafhi Innocent Sinthumule, An analysis of communities' attitudes towards wetlands and implications for sustainability, *Global Ecology and Conservation*, Volume 27, 2021, e01604, ISSN 2351-9894, <https://doi.org/10.1016/j.gecco.2021.e01604>.

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C. Munyati, N.I. Sinthumule, Comparative suitability of ordinary kriging and Inverse Distance Weighted interpolation for indicating intactness gradients on threatened savannah woodland and forest stands, *Environmental and Sustainability Indicators*, Volume 12, 2021, 100151, ISSN 2665-9727, <https://doi.org/10.1016/j.indic.2021.100151>

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Ndidzulafhi Innocent Sinthumule, Gender and sacred natural sites: The role of women in sacred sites protection and management in Vhembe region, Limpopo Province of South Africa, *Global Ecology and Conservation*, Volume 35, 2022, e02099, ISSN 2351-9894, <https://doi.org/10.1016/j.gecco.2022.e02099>

Kambule, N., Yessoufou, K., Nwulu, N. 2021: Formulating best practice recommendations for prepaid electricity meter deployment in Soweto, South Africa – Capitalising on the Developed-world's experience. *Journal of Public Affairs*: doi:10.1002/pa.2646

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Kambule, N. & Nwulu, N. 2021. The deployment of prepaid electricity Meters in Sub-Saharan Africa: Riding the Fourth Wave. ISBN 978-3-030-71217-4. Lecture Notes in Electrical Engineering: Springer International Publishing. Under press (hard copy date: 23 May 2021). SJ Roffe, JM Fitchett, CJ Curtis - International Journal of Climatology, 2021 [Investigating changes in rainfall seasonality across South Africa: 1987–2016](https://doi.org/10.1007/s10661-021-08854-0)

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Semelane, S., Nwulu, N., **Kambule, N.** & Tazvinga, H. 2021: Economic feasibility assessment of manufacturing solar panels in South Africa—A case study of Steve Tshwete Local Municipality. *Sustainable Energy Technologies and Assessments*, 43, 100945

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du Plessis, D.M., Curtis, C.J. Trace element contaminants associated with historic gold mining in sediments of dams and pans across Benoni, South Africa. *Environ Monit Assess* **193**, 122 (2021). <https://doi.org/10.1007/s10661-021-08854-0>

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<https://doi.org/10.1007/s40201-020-00597-3>

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Prevlan Chetty, Solomon Tesfamichael [A](#) [Comparison of Interpolation Techniques in Producing a DEM from the 5 m National Geospatial Institute \(NGI\) Contours.](#) *GISTAM* 202137-47

S Dlamini, SG Tesfamichael, T Mokhele [A](#) [review of place identity studies in post-apartheid South Africa](#) *South African Journal of Psychology*, 2021

Emmanuel Fundisi, Solomon G. Tesfamichael & Fethi Ahmed (2021) A bi-seasonal classification of woody plant species using Sentinel-2A and SPOT-6 in a localised species-rich savanna environment, *Geocarto International*, DOI: [10.1080/10106049.2021.1939441](https://doi.org/10.1080/10106049.2021.1939441)

Simangele Dlamini, Solomon G. Tesfamichael, Tholang Mokhele, Socio-demographic determinants of environmental attitudes, perceptions, place attachment, and environmentally responsible behaviour in Gauteng province, South Africa, *Scientific African*, Volume 12, 2021, e00772, ISSN 2468-2276,
<https://doi.org/10.1016/j.sciaf.2021.e00772>

Solomon G. Tesfamichael, Solomon W. Newete, Elhadi Adam & Marcus J. Byrne (2021) Discriminating pure *Tamarix* species and their putative hybrids using field spectrometer, *Geocarto International*, DOI: [10.1080/10106049.2021.1983033](https://doi.org/10.1080/10106049.2021.1983033)

Dlamini, S., Tesfamichael, S.G. Approaches on the concepts of place attachment in South Africa. *GeoJournal* **86**, 2435–2445 (2021).
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Publications continued:

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Simbarashe Jombo, Elhadi Adam & Solomon Tesfamichael (2022) Classification of urban tree species using LiDAR data and WorldView-2 satellite imagery in a heterogeneous environment, *Geocarto International*, DOI: [10.1080/10106049.2022.2028904](https://doi.org/10.1080/10106049.2022.2028904)

Tree phylogenetic diversity supports nature's contributions to people, but is at risk from human population growth
T.Jonathan Davies, Olivier Maurin, Kowiyou Yessoufou, Barnabas H. Daru, Bezeng S. Bezeng, Hanno Schaefer, Wilfried Thuiller, Michelle van der Bank
bioRxiv 2021.02.13.430985; doi: <https://doi.org/10.1101/2021.02.13.430985>

Machetele Dimakatso, Yessoufou Kowiyou A Decade Long Slowdown in Road Crashes and Inherent Consequences Predicted for South Africa *Frontiers in Future Transportation* VOLUME=2YEAR=2021URL=<https://www.frontiersin.org/article/10.3389/ffutr.2021.760640> DOI=10.3389/ffutr.2021.760640

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essoufou, K.; Ambani, A.E. Are Introduced Alien Species More Predisposed to Invasion in Recipient Environments If They Provide a Wider Range of Services to Humans? *Diversity* **2021**, *13*, 553.
<https://doi.org/10.3390/d13110553>

Muleba, I., Yessoufou, K. & Rampedi, I.T. Testing the non-random hypothesis of medicinal plant selection using the woody flora of the Mpumalanga Province, South Africa. *Environ Dev Sustain* **23**, 4162–4173 (2021).
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Peter, Sinthemba and Tangwe, S and Yessoufou, Kowiyou and Kambule, NE, Qualitative approach in improving the market penetration and justifying the potential viability of solar water heaters for sanitary water heating in Dimbaza in South Africa (July 26, 2021). AIUE Proceedings of the 2nd Energy and Human Habitat Conference 2021, Available at SSRN: <https://ssrn.com/abstract=3901093> or <http://dx.doi.org/10.2139/ssrn.3901093>

[Orou G. Gaoue](#),[Jacob K. Moutouama](#),[Michael A. Coe](#),[Matthew O. Bond](#),[Elizabeth Green](#),[Nadejda B. Sero](#),[Bezeng S. Bezeng](#),[Kowiyou Yessoufou](#)
Methodological advances for hypothesis-driven ethnobiology 30 May 2021
<https://doi.org/10.1111/brv.12752>

Horamo, Yohannes, Munyaradzi Chitakira, and Kowiyou Yessoufou. "Farmers' knowledge is the basis for local level agro-forestry management: the Case of Lemo Woreda in Hadiya Zone, Ethiopia." *Frontiers in Sustainable Food Systems* (2021): 345.

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Publications continued:

Durga H. Kotal, Ripu M. Kunwar, Yadav Uprety, Yagya P. Adhikari, Shandesh Bhattarai, Binaya Adhikari, Laxmi M. Kunwar, Man D. Bhatt, Rainer W. Bussmann, Selection of medicinal plants for traditional medicines in Nepal, *Journal of Ethnobiology and Ethnomedicine*, 10.1186/s13002-021-00486-5, **17**, 1, (2021).

Machetele, D.; Yessoufou, K. A Decade Long Slowdown in Road Accidents and Inherent Consequences Predicted for South Africa. *Preprints* **2021**, 2021030713 (doi: 10.20944/preprints202103.0713.v1).

Yessoufou K, Ambani AE, Elansary HO, Gaoue OG (2021) Alien woody plants are more versatile than native, but both share similar therapeutic redundancy in South Africa. *PLoS ONE* 16(11): e0260390.

<https://doi.org/10.1371/journal.pone.0260390>

Fanteso, B., Yessoufou, K. Diversity and determinants of traditional water conservation technologies in the Eastern Cape Province, South Africa. *Environ Monit Assess* **194**, 161 (2022). <https://doi.org/10.1007/s10661-022-09848-2>

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Roffe, S.J., Fitchett, J.M. & **Curtis, C.J.** (2021) Quantifying rainfall seasonality across South Africa on the basis of the relationship between rainfall and temperature. *Climate Dynamics* (2021). <https://doi.org/10.1007/s00382-020-05597-5>

OURAU - Mair, LouiseAU - Bennun, Leon A.AU - Brooks, Thomas M.AU - Butchart, Stuart H. M.AU - Bolam, Friederike C.AU - Burgess, Neil D.AU - Ekstrom, Jonathan M. M.AU - Milner-Gulland, E. J.AU - Hoffmann, MichaelAU - Ma, KepingAU - Macfarlane, Nicholas B. W.AU - Raimondo, Domitilla C.AU - Rodrigues, Ana S. L.AU - Shen, XiaoliAU - Strassburg, Bernardo B. N.AU - Beatty, Craig R.AU - Gómez-Creutzberg, CarlaAU - Iribarrem, AlvaroAU - Irmadhiany, MeizaniAU - Lacerda, EduardoAU - Mattos, Bianca C.AU - Parakkasi, KarmilaAU - Tognelli, Marcelo F.AU - Bennett, Elizabeth L.AU - Bryan, CatherineAU - Carbone, GiuliaAU - Chaudhary, AbhishekAU - Eiselin, MaximeAU - da Fonseca, Gustavo A. B.AU - Galt, RussellAU - Geschke, ArneAU - Glew, LouiseAU - Goedicke, RomieAU - Green, Jonathan M. H.AU - Gregory, Richard D.AU - Hill, Samantha L. L.AU - Hole, David G.AU -

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Publications continued:

Hughes, JonathanAU - Hutton, JonathanAU - Keijzer, Marco P. W.AU - Navarro, Laetitia M.AU - Nic Lughadha, EimearAU - Plumptre, Andrew J.AU - Puydarrieux, PhilippeAU - Possingham, Hugh P.AU - Rankovic, AleksandarAU - Regan, Eugenie C.AU - Rondinini, CarloAU - Schneck, Joshua D.AU - Siikamäki, JuhaAU - Sendashonga, CyriaqueAU - Seutin, GillesAU - Sinclair, SamAU - Skowno, Andrew L.AU - Soto-Navarro, Carolina A.AU - Stuart, Simon N.AU - Temple, Helen J.AU - Vallier, AntoineAU - Verones, FrancescaAU - Viana, Leonardo R.AU - Watson, JamesAU - Bezeng, SimeonAU - Böhm, MonikaAU - Burfield, Ian J.AU - Clausnitzer, ViolaAU - Clubbe, ColinAU - Cox, Neil A.AU - Freyhof, JörgAU - Gerber, Leah R.AU - Hilton-Taylor, CraigAU - Jenkins, RichardAU - Joolia, AckbarAU - Joppa, Lucas N.AU - Koh, Lian PinAU - Lacher, Thomas E.AU - Langhammer, Penny F.AU - Long, BarneyAU - Mallon, DavidAU - Pacifici, MichelaAU - Polidoro, Beth A.AU - Pollock, Caroline M.AU - Rivers, Malin C.AU - Roach, Nicolette S.AU - Rodríguez, Jon PaulAU - Smart, JaneAU - Young, Bruce E.AU - Hawkins, FrankAU - McGowan, Philip J. K.PY - 2021DA - 2021/06/01TI - A metric for spatially explicit contributions to science-based species targetsJO - Nature Ecology & EvolutionSP - 836EP - 844VL - 5IS - 6AB

- The Convention on Biological Diversity's post-2020 Global Biodiversity Framework will probably include a goal to stabilize and restore the status of species. Its delivery would be facilitated by making the actions required to halt and reverse species loss spatially explicit. Here, we develop a species threat abatement and restoration (STAR) metric that is scalable across species, threats and geographies. STAR quantifies the contributions that abating threats and restoring habitats in specific places offer towards reducing extinction risk. While every nation can contribute towards halting biodiversity loss, Indonesia, Colombia, Mexico, Madagascar and Brazil combined have stewardship over 31% of total STAR values for terrestrial amphibians, birds and mammals. Among actions, sustainable crop production and forestry dominate, contributing 41% of total STAR values for these taxonomic groups. Key Biodiversity Areas cover 9% of the terrestrial surface but capture 47% of STAR values. STAR could support governmental and non-state actors in quantifying their contributions to meeting science-based species targets within the framework.SN - 2397-334XUR - <https://doi.org/10.1038/s41559-021-01432-0> - 10.1038/s41559-021-01432-0ID - Mair2021ER

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF JOHANNESBURG

Publications continued:

Van Der Bank FH1, Stewart RD1, Pilusa M1, Bezeng BS*1,2,3 Hoeg JT4 and Schiffer PH Lepas *lalandii* sp. nov: A Goose Barnacle (Crustacea) Species from DNA Barcoding Volume 5 Issue 3

<https://doi.org/10.23880/ijoac-16000208>

Dayananda B, Bezeng SB, Karunarathna S and Jeffree RA (2021) Climate Change Impacts on Tropical Reptiles: Likely Effects and Future Research Needs Based on Sri Lankan Perspectives. *Front. Ecol. Evol.* 9:688723. doi: 10.3389/fevo.2021.688723

Wajid Zaman, Jianfei Ye, Saddam Saqib, Yun Liu, Zhangjian Shan, Dacheng Hao, Zhiduan Chen, Peigen Xiao, Predicting potential medicinal plants with phylogenetic topology: Inspiration from the research of traditional Chinese medicine, *Journal of Ethnopharmacology*, 10.1016/j.jep.2021.114515, (114515), (2021).

H.J. Niemann, B.S. Bezeng, R.D. Orton, R.M. Kabongo, M. Pilusa, M. van der Bank, Using a DNA barcoding approach to facilitate biosecurity: Identifying invasive alien macrophytes traded within the South African aquarium and pond plant industry, *South African Journal of Botany*, Volume 144, 2022, Pages 364-376, ISSN 0254-6299, <https://doi.org/10.1016/j.sajb.2021.08.041>.

Kate Massarella, Anja Nygren, Robert Fletcher, Bram Büscher, Wilhelm A Kiwango, Sanna Komi, Judith E Krauss, Mathew B Mabele, Alex McInturff, Laila T Sandroni, Peter S Alagona, Dan Brockington, Robert Coates, Rosaleen Duffy, Katia M.P.M.B. Ferraz, Stasja Koot, Silvio Marchini, Alexandre R Percequillo, Transformation beyond conservation: how critical social science can contribute to a radical new agenda in biodiversity conservation, *Current Opinion in Environmental Sustainability*, Volume 49, 2021, Pages 79-87, ISSN 1877-3435, <https://doi.org/10.1016/j.cosust.2021.03.005>

Büscher, Bram. / Between overstocking and extinction : Conservation and the intensification of uneven wildlife geographies in Africa. In: *Journal of Political Ecology*. 2021 ; Vol. 28, No. 1. pp. 1-22.

Büscher, B., (2022) "Political ecologies of extinction: from endpoint to inflection-point. Introduction to the Special Section", *Journal of Political Ecology* 28(1), p.696–704. doi: <https://doi.org/10.2458/jpe.4828>

Ndzimbomvu, N.T.; Rampedi, I.T.; Kemp, M.E. Learning Environmental Issues from a Secondary School Curriculum: The Case of Learners in Mamelodi Township, South Africa. *Sustainability* 2021, 13, 9149. <https://doi.org/10.3390/su13169149>

SSAG NEWS 2021/22

SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF JOHANNESBURG

Publications continued:

Muleba, I., Yessoufou, K. & Rampedi, I.T. Testing the non-random hypothesis of medicinal plant selection using the woody flora of the Mpumalanga Province, South Africa. *Environ Dev Sustain* **23**, 4162–4173 (2021).

<https://doi.org/10.1007/s10668-020-00763-5>

Dorothea Christina Schoeman & Isaac Tebogo Rampedi (2021) Household recycling and Millennials: A case study of the city of Johannesburg, South Africa, Development Southern Africa, DOI: [10.1080/0376835X.2021.1900789](https://doi.org/10.1080/0376835X.2021.1900789)

Simangele Dlamini, Elizabeth Block & Isaac T Rampedi (2022) Understanding students' environmental perceptions and some of their determinants in Gauteng province: a case study at the University of Johannesburg, South Africa, South African Geographical Journal, 104:1, 89-106, DOI: [10.1080/03736245.2021.1917447](https://doi.org/10.1080/03736245.2021.1917447)

Rampedi, I.T.; Ifegbesan, A.P. Understanding the Determinants of Pro-Environmental Behavior among South Africans: Evidence from a Structural Equation Model. *Sustainability* **2022**, *14*, 3218. <https://doi.org/10.3390/su14063218>

Breijyeh, Z.; Jubeh, B.; Bufo, S.A.; Karaman, R.; Scrano, L. Cannabis: A Toxin-Producing Plant with Potential Therapeutic Uses. *Toxins* **2021**, *13*, 117. <https://doi.org/10.3390/toxins13020117>

Thawabteh, A.M.; Thawabteh, A.; Lelario, F.; Bufo, S.A.; Scrano, L. Classification, Toxicity and Bioactivity of Natural Diterpenoid Alkaloids. *Molecules* **2021**, *26*, 4103.

<https://doi.org/10.3390/molecules26134103>

Spochacz, M.; Chowański, S.; Szymczak-Cendlak, M.; Marciniak, P.; Lelario, F.; Salvia, R.; Nardiello, M.; Scieuzo, C.; Scrano, L.; Bufo, S.A.; et al. Solanum nigrum Extract and Solasonine Affected Hemolymph Metabolites and Ultrastructure of the Fat Body and the Midgut in *Galleria mellonella*. *Toxins* **2021**, *13*, 617. <https://doi.org/10.3390/toxins13090617>

Bianco, G.; Foti, L.; Pascale, R.; Lelario, F.; Coviello, D.; Brienza, M.; Bufo, S.A.; Scrano, L. Phosphodiesterase-5 (PDE-5) Inhibitors as Emergent Environmental Contaminants: Advanced Remediation and Analytical Methods. *Water* **2021**, *13*, 2859. <https://doi.org/10.3390/w13202859>

Bianco, G.; Foti, L.; Pascale, R.; Lelario, F.; Coviello, D.; Brienza, M.; Bufo, S.A.; Scrano, L. Phosphodiesterase-5 (PDE-5) Inhibitors as Emergent Environmental Contaminants: Advanced Remediation and Analytical Methods. *Water* **2021**, *13*, 2859. <https://doi.org/10.3390/w13202859>

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF JOHANNESBURG

Publications continued:

B Zeinab, J Buthaina, SA Bufo, K Rafik, L Scrano – 2021 [Cannabis: A Toxin-Producing Plant with Potential Therapeutic Uses](#)

Marta, S., Szymon, C., Monika, S.C., Paweł, M., Lelario, F., Salvia, R., Nardiello, M., Scieuzo, C., Scrano, L., Bufo, S.A. and Zbigniew, A., 2021. Solanum nigrum extract and solasonine affected hemolymph metabolites and ultrastructure of the fat body and the midgut in *Galleria mellonella*.

Breijyeh, Z.; Jubeh, B.; Bufo, S.A.; Karaman, R.; Scrano, L. Cannabis: A Toxin-Producing Plant with Potential Therapeutic Uses. *Toxins* **2021**, *13*, 117. <https://doi.org/10.3390/toxins13020117>

Adamski, Z.; Bufo, S.A.; Milella, L.; Scrano, L. Identification and Functional Characterization of Plant Toxins. *Toxins* **2021**, *13*, 228. <https://doi.org/10.3390/toxins13030228>

Lelario, F.; Bianco, G.; Bufo, S.A.; Scrano, L. Simulated Ageing of Crude Oil and Advanced Oxidation Processes for Water Remediation since Crude Oil Pollution. *Catalysts* **2021**, *11*, 954. <https://doi.org/10.3390/catal11080954>

Lelario, F.; Pascale, R.; Bianco, G.; Scrano, L.; Bufo, S.A. Hemp Chemotype Definition by Cannabinoids Characterization Using LC-ESI(+)-LTQ-FTICR MS and Infrared Multiphoton Dissociation. *Separations* **2021**, *8*, 245. <https://doi.org/10.3390/separations8120245>

Daniel Hammett, Lucy Jackson. (2021) [The new age of the nation state?](#). *Geography* 106:2, pages 76-84.

Laurent Matthey. (2021) [“Anyone Who Inspects the World Around Him Is in Some Measure a Geographer”](#): Pasolinian Contributions to an Ecology of the Edges. *GeoHumanities* 0:0, pages 1-20.

Spochacz, M.; Chowański, S.; Szymczak-Cendlak, M.; Marciniak, P.; Lelario, F.; Salvia, R.; Nardiello, M.; Scieuzo, C.; Scrano, L.; Bufo, S.A.; Adamski, Z.; Falabella, P. Solanum nigrum Extract and Solasonine Affected Hemolymph Metabolites and Ultrastructure of the Fat Body and the Midgut in *Galleria mellonella*. *Toxins* **2021**, *13*, 617. <https://doi.org/10.3390/toxins13090617>

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF JOHANNESBURG

MSc Graduations and supervisors continued:

MSc

Chetty, Prevan (Geography)

Dissertation: An evaluation of interpolation techniques and commonly used digital elevation models for floodline mapping in a South African environment Supervisor: Prof SG Tesfamichael

Machetele, Dimakatso (Geography) Dissertation: Formulation and test of a model to explain the complexity of road accident events in South Africa Supervisor: Prof K Yessoufou

Malleka, Thabisile Seipati Charity (Geography) Dissertation: A city tainted by crime: visitors perceptions on safety and security in Johannesburg Supervisor: Prof G Hoogendoorn

Muzhingi, Dionne Tinotenda (Environmental Management) Minor Dissertation: Environmental niche modelling of elephant poaching sites in the Matusadona National Park, Zimbabwe Supervisor: Prof K Yessoufou

Mabunda, Vukosi Glen (Geography) Dissertation: Assessment of groundwater quantity and quality using spatial technologies: A case of City of Johannesburg Metropolitan Municipality Supervisor: Ms M Rabumbulu Co-Supervisor: Ms T Mugwena

Mokalapa, Tryphosa Tubake (Environmental Management)

Minor Dissertation: Assessing the environmental impacts of acid mine drainage on the Blesbokspruit tributary in East Rand, Gauteng Province Supervisor: Prof IT Rampedi

Moroke, Tshepang Sheryl (Environmental Management)

Minor Dissertation: Investigating potential impacts of mining activities on school learners health conditions and academic performance in South African high schools Supervisor: Prof K Yessoufou

Ngobeni, Pfumelani Lindsay (Environmental Management) (with distinction) Minor Dissertation: State and community perspectives on illegal dumping of healthcare risk waste (HCRW) in the City of Tshwane, South Africa Supervisor: Prof K Yessoufou.

Simelane, Siyabonga Precept (Geography) Dissertation: A critical evaluation of health risk assessments of PM2.5 from coal-fired power stations Supervisor: Dr K Langerman

Sindane, Jabulile Thabisile (Environmental Management)

Minor Dissertation: The Impacts of Wastewater on the Residential Areas of Emfuleni Local Municipality: A Case Study of Rietspruit River Catchment Supervisor: Dr LS Modley

Muzhingi, Dionne Tinotenda Environmental niche modelling of elephant poaching sites in the Matusadona National Park, Zimbabwe Prof K Yessoufou

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF JOHANNESBURG

MSc Graduations and supervisors continued:

PhD

Muleba, Jean Leon Isidore Ntendesha
(Environmental Management)

Thesis: Understanding the Use Patterns of
Medicinal Plants: Investigating Three
Ethnobotanical Hypotheses in the Mpumalanga
Province, South Africa Supervisor: Prof K
Yessoufou Co-Supervisor: Prof IT Rampedi

Fundisi, Emmanuel (Geography)

Thesis: Remote sensing of woody plant species
diversity estimation in a heterogeneous savanna
vegetation environment Supervisor: Prof SG
Tsfamichael Co-Supervisor: Prof FB Ahmed
(University of the Witwatersrand)

Jauro, Tanre Ibrahim (Environmental
Management) Thesis: A Critical Evaluation of
Natural Resource Utilization and Land Use -
Land Cover Dynamics in the Vhembe Biosphere
Reserve of the Limpopo province in South
Africa Supervisor: Prof IT Rampedi
Co-Supervisor: Prof SG Tsfamichael

Mushawemhuka, William John
(Environmental Management) Thesis: A
comprehensive assessment of climate
change threats and adaptation of nature
based tourism in Zimbabwe
Supervisor: Prof G Hoogendoorn Co-
Supervisor: Prof JM Fitchett (University of
the Witwatersrand)

Gregory, James Jenkins (Geography)
Thesis: Studentification in South Africa: A
Socio-Spatial Investigation of
Neighbourhood Change Supervisor: Prof JM
Rogerson Co-Supervisor: Prof J Saarinen
(University of Oulu, Finland)

Schoeman, Dorothea Christina
(Environmental Management)
Thesis: Recycling in the City of
Johannesburg: Role of households
Supervisor: Prof IT Rampedi

Semelane, Maphumzane Stanley
Investigating localisation impacts of
manufacturing solar photovoltaics in coal
phasing-out regions – A case study of Steve
Tshwete Local Municipality Prof N Nwulu
(FEBE) Dr N Kambule Dr H Tazvinga
(South Africa Weather Service)

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF JOHANNESBURG

2 020 Student

Numbers:

<i>First year</i>	203
<i>Second year</i>	141
<i>Third Year</i>	70
<i>Honours</i>	53
<i>Masters</i>	55
<i>Doctoral</i>	16

Link to
departmental page

<https://www.uj.ac.za/faculties/science/geography>

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF THE WITWATERSRAND

Name of department:

Geography, Archaeology and Environmental Studies

Head of department:

- **Professor Paida Mhangara**

Information about the Geographers and their area of specialisation in the department:

- **Sarita Pillay Gonzalez**

Urban geography including the relationship between the state and real estate and how this shapes cities urban regeneration and displacement, property development and real estate, and the political economy of post-apartheid and Global South cities.

- **Dr Serge Kubanza**

Environmental management and sustainability, with a specific focus on sustainable solid waste management in Sub-Saharan African cities, with an emphasis on South African and Congolese cities

- **Dr Cletah Shoko**

Remote sensing, GIS, Geospatial modelling, Surface hydrology, Spatial ecology.

- **Dr Iqra Atif**

Applications of advanced GIS and Remote Sensing for geospatial and numerical modelling of geohazards, climate change and its impact on natural resources for sustainable development and management.

- **Dr Raesa Moolla**

Atmospheric Science, Air Pollution

- **Dr Mary Evans**

Optically Stimulated Luminescence Dating, palaeoenvironmental reconstructions of Quaternary landscapes, river dynamics, climatology and atmospheric processes, science education.

- **Dr Alex Wafer**

Urban and human geography

- **Prof Elhadi Adam**

Use of remote sensing techniques and machine learning algorithms in monitoring vegetation

- **Prof Jennifer Fitchett**

Biometeorology: climatology, tourism and climate change, phenology, climate and health, and palaeoclimatology

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG



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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF THE WITWATERSRAND

Geographers continued:

- **Prof Mulala Simatele**

Environmental management, governance and sustainability, environmental impacts assessments and environmental monitoring systems, coastal and marine resource management and sustainability, climate change adaptation.

- **Prof Jasper Knight**

Geoscience: spatial and temporal variability in landscape system responses to climate and environmental changes during the late Pleistocene and Holocene, looking at sediments and geomorphology.

- **Prof Stefan Grab**

Historical climatology, geomorphology, climate and environmental change.

- **Prof Craig Sheridan**

Water research: provision and treatment.

- **Prof Francois Engelbrecht**

Climatology, climate modelling and climate futures.

- **Yingisani Chabalala**

Senior GIS and Remote Sensing Technician.

- **Wendy Phillips**
Cartographer.

- **Dr Annika Herbert**
Postdoctoral fellow – palaeoclimate modelling

- **Natanya Alexander**
Senior Administrative Officer

- **Kerayamang Mafora**
Postgraduate Administrator

- **Khanyo Ngubo**
Finance Officer

- **Hlokwa Madithapa**
Procurement Officer

- **Thandizwe Nsimbi**
Senior Technician

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF THE WITWATERSRAND

Exciting departmental news:

During 2021 we appointed a new GIS lecturer, Dr Iqra Atif, and a new Human Geography lecturer, Dr Serge Kubanza.

The school of Geography, Archaeology and Environmental Studies offered an undergraduate Environmental Studies stream for the first time in 2021, with a cohort of second year students. In 2022 the school will take in the first cohort of third year students.

Prof Craig Sheridan has been awarded the Claude Leon Foundation Chair in Water Research. The school consequently has appointed an additional contract lecturer in Water, Dr Simone Dahms-Verster, who will start on 1 February. Prof Sheridan has also been awarded a grant of DKK4,985,766 from the Danish Ministry of Foreign Affairs to conduct a joint study with the University of Copenhagen entitled 'Environmentally and Economically Sustainable Water Treatment System for Post-mining Waste

Prof Francois Engelbrecht was appointed as the Director of the Wits Global Change Institute in November 2021. He was elected as President of the South African Society for Atmospheric Science (SASAS) in November 2021. He was the recipient of the 2021 Stanley Jackson Award for the best published paper contributing to the atmospheric and oceanic science in South Africa, entitled "Test for COVID-19 seasonality and the risk of second waves", published in *One Health*, co-authored by the late R.J. Scholes. Prof Engelbrecht was also one of the lead authors in Working Group 1 for the IPCC 6th Assessment Report.

Dr Mary Evans was invited to be a judge at the Global Undergraduate Awards for 2021. The Global Undergraduate Awards is an international academic awards programme that recognises originality, innovation, and excellence at the undergraduate level. The UA Judging Process connects leading academics worldwide to identify the world's top undergraduate research. There are around 2500 entries, in 25 categories and 1 judged projects in the Earth and Environmental Sciences.

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UNIVERSITY OF THE WITWATERSRAND

Departmental news continued:

Dr Raeesa Moolla completed an air quality monitoring project at Lanseria International Airport, which had sponsored one PhD student and 2 MSc students, and has provided valuable information on air quality challenges at our local airports. Dr Moolla was also elected to the Executive Board of South African Women in Science and Engineering.

Prof Jennifer Fitchett was elected as the editor of the South African Young Academy of Science Blog, and was elected to the editorial board of the South African Journal of Science as the Associate Editor: Earth and Environment. Prof Fitchett is a PI on a successful NRF funding application to explore the multi-sectoral impacts of extreme climate events.

Prof Mulala Simatele received an NRF grant to the value of R3 million, for a project entitled “Unlocking the Locked: moving to more engaged, inclusive and generative approaches to climate change adaptation in South Africa. Prof Simatele also received a R1.5 million WRC grant for a project entitled “A combination of chemical analysis and stakeholder’s participation in solving the Hennops river pollution in Gauteng Province, South Africa”, in partnership with Prof Luke Chimuka and Dr Heidi Roberts of the Wits School of Chemistry.

Sarita Pillay Gonzalez was part of a team working on the multimedia City Lockdown Diaries Project. More details about the project can be viewed on this [website](#).

The team published two artwork-infused reports revisiting the hard lockdown in 2020 and its socio-spatial differentiation across Gauteng. These analyse and visually reflect on diary entries from residents living in different parts of Gauteng at the onset of the pandemic and the Level 5 lockdown. The two reports, [Spaces & Places](#), and [The Shops, Streets and Social Distancing](#) are available to view & download on the Wits Marketing website.

Keegan Fraser (Geography MSc student at Wits, supervised by Prof Jennifer Fitchett) was the recipient of the SSAG Honours Prize.

PhD student Mahlatse Kganyago and supervisor Prof Paida Mhangara were the recipient of the Taylor and Francis Remote Sensing Letters Award in September 2021 from the Council of the Remote Sensing and Photogrammetry Society for the best paper published in 2020 in the Remote Sensing Letters journal, entitled ‘Validation of sentinel-2 leaf area index (LAI) product derived from SNAP toolbox and its comparison with global LAI products in an African semi-arid agricultural landscape’.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF THE WITWATERSRAND

Departmental news continued:

PhD student Mahlatse Kganyago and supervisor Prof Paida Mhangara were the recipient of the Taylor and Francis Remote Sensing Letters Award in September 2021 from the Council of the Remote Sensing and Photogrammetry Society for the best paper published in 2020 in the Remote Sensing Letters journal, entitled 'Validation of sentinel-2 leaf area index (LAI) product derived from SNAP toolbox and its comparison with global LAI products in an African semi-arid agricultural landscape'.

2021/2022 List of publications.

Abd Elbasit, M.A.M., **Knight, J.**, Liu, G., Abu-Zreig, M.M. and Hasaan, R. 2021. Valuation of Ecosystem Services in South Africa, 2001–2019. *Sustainability*, 13, 11262, doi:10.3390/su132011262.

Abutaleb, K., Newete, S., Mangwanya, S., **Adam, E.** and Byrne, M. 2021. Mapping eucalyptus trees using high resolution multispectral images: A study comparing WorldView 2 vs. SPOT 7. *Egyptian Journal of Remote Sensing and Space Sciences*, 24, 333-342.

Adoma, R.K. and **Simatele, M.D.** 2021. Analysis of public policies and programmes towards water security in post-apartheid South Africa. *Water Policy*, 23, 503-520

Altayeb, O., Abiye, A.K.A., Tamiru, A. and **Adam, E.** 2021. Assessing the utility of using current generation high-resolution satellites (Sentinel 2 and Landsat 8) to monitor large water supply dam in South Africa. *Remote Sensing Applications: Society and Environment*, 22, 100521.

Amoah, L.N.A. and **Simatele, M.D.** 2021. Food security and coping strategies of rural household livelihoods to climate change in the Eastern Cape of South Africa. *Frontiers in Sustainable Food Systems*, DOI: 10.3389/fsufs.2021.692185.

Auchterlonie, J., Christin, E. and **Sheridan, C.** 2021. The phytoremediation potential of water hyacinth: A case study from Hartebeespoort Dam, South Africa. *South African Journal of Chemical Engineering* 37, 31-36.

Birin, R.A., Schoeman, M.H. and **Evans, M.** 2021. The construction and habitation of one of the earliest homesteads at Komati Gorge Village 1, Bokoni, South Africa. *Journal of Archaeological Science: Reports*, 38, 103020.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF THE WITWATERSRAND

Publications continued:

Blair, A.M., Thompson, D.I., Twine, W.C. and **Grab, S.W.** 2021. The social-ecological drivers across land-use intersects driving marula tree population dynamics in north-eastern South Africa. *Forest Ecology and Management*, 492, p.119209.

Cadd, H., Petherick, L., Tyler, J., Herbert, A., Cohen, T.J., Sniderman, K., Barrows, T.T., Fulop, R.H., **Knight, J.**, Kershaw, A.P., Colhoun, E. and Harris, M.R.P. 2021. A continental perspective on the timing of environmental change during the last glacial stage in Australia. *Quaternary Research*, 102, 5-23.

Colbert, J. and **Adam, E.** 2021. Machine learning classification of endangered tree species in a tropical submontane forest using WorldView-2 Multispectral Satellite Imagery and Imbalanced Dataset. *Remote Sensing*, 13, 4970. Contribution: Climatological analysis and climatological literature component.

Craparo, A.C.W., Van Asten, P.J.A., Läderach, P., Jassogne, L.T.P. and **Grab, S.W.** 2021. Warm nights drive *Coffea Arabica* yields in Tanzania. *International Journal of Biometeorology*, 65,181-192.

Dlamini, M., **Adam, E.** Chirima, J. and Hamandawana, H. 2021. A remote sensing-based approach to investigate changes in land use and land cover in the lower uMfolozi floodplain system, South Africa. *Transactions of the Royal Society of South Africa*, 76(1), 13-25.

Dlamini, M., Chirima, G., Sibanda, M., **Adam, E.** and Dube, T. 2021. Characterizing leaf nutrients of wetland plants and agricultural crops with nonparametric approach using Sentinel-2 imagery data. *Remote Sensing*, 13, 4249.

Dlamini, M., Chirima, J., Jovanovic, N. and **Adam, E.** 2021. Assessing the effects of land use on surface water quality in the lower uMfolozi floodplain system, South Africa. *International Journal of Environmental Research and Public Health*, 18, 561.

Dosio A., Jury M.W., Almazroui M., Ashfaq M., Diallo I., **Engelbrecht F.A.**, Klutse N.A.B., Lennard C., Pinto I., Sylla M.B. and Tamoffo A.T. 2021. Projected future daily characteristics of African precipitation based on global (CMIP5, CMIP6) and regional (CORDEX, CORDEX-CORE) climate models. *Climate Dynamics*, 57, 3135–3158.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF THE WITWATERSRAND

Publications continued:

Dube, K., Chapangu, L. and **Fitchett, J.M.** 2021. Meteorological and climatic aspects of Cyclone Idai and Kenneth. In: Nhamo, G. and Dube, K. (Eds.) *Cyclones in Southern Africa, Vol. 2: Foundational and Fundamental Topics*, Springer: Cham, pp. 19-36.

Engelbrecht F.A. and Scholes R.J. 2021. Test for Covid-19 seasonality and the risk of second waves. *One Health*, 12, 100202.

Engelbrecht C.J., Phakula S., Landman W.A. and **Engelbrecht F.A.** 2021. Subseasonal deterministic prediction skill of low-level geopotential height affecting southern Africa. *Weather and Forecasting*, 36, 3195-205.

Engelbrecht F.A. and Vogel C.H. 2021. When Early Warning is not enough. *One Earth*, 4, 1055-1058.

Engelbrecht F.A. and Monteiro P.M.S. 2021. The IPCC Assessment Report Six Working Group I report and southern Africa: Reasons to take action. *South African Journal of Science*, 117, 1-6

Etali, L. and **Simatele, D.M.** 2021. Climate change adaptation for food security and gendered-land rights in Western Kenya. *Journal of Asian and African Studies*, DOI: 10.1177/0021909620988302.

Fitchett, J.M. 2021. Climate change threats to Urban Tourism in South Africa. In: Rogerson, C.M. and Rogerson, J.M. (Eds.) *Urban Tourism in the Global South*, Springer: Cham, pp. 77-92

Fitchett, J.M. 2021. Perspectives on biometeorological research on the African continent. *International Journal of Biometeorology*, 65: 133-147

Fitchett, J.M. 2021. Science always makes a difference. *South African Journal of Science*, 117(11/12): 1-2.

Fitchett, J.M. and Raik, K. 2021. Phenological advance of blossoming over the past century in one of the world's largest urban forests, Gauteng City-Region, South Africa. *Urban Forestry and Urban Greening*, 63, DOI: 10.1016/j.ufug.2021.127238.

Fleming, B. and **Evans, M.** 2021). An evaluation of the use of GIS and open data in secondary school education in South Africa, with reference to QGIS and OpenStreetMap (OSM). *The Journal of Geography Education in Africa*, 4, 23-25

Franzsen, S., **Sheridan, C.**, and Simate, G. 2021. Process for high recovery treatment of brackish water reverse osmosis concentrate. *Desalination*, 498, 114792.

SSAG NEWS 2021/22

SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF THE WITWATERSRAND

Publications continued:

Grab, S., Knight, J., Mol, L., Botha, T., Carbutt, C. and Woodborne, S. 2021. Relationships between rock weathering rinds, shrub growth patterns and periglacial landforms in the high Drakensberg, southern Africa. *Geografiska Annaler: Series A, Physical Geography*, 103(3), 199-222.

Grab, S.W., Knight, J., Mol, L., Botha, T., Carbutt, C. and Woodborne, S. 2021. Periglacial landforms in the high Drakensberg, southern Africa: morphogenetic associations with rock weathering rinds and shrub growth patterns. *Geografiska Annaler, Series A, Physical Geography*, 103, 199-222.

Herbert, A.V. and Fitchett, J.M. 2021. Quantifying Late Quaternary rainfall seasonality changes for Australia: application of the Poaceae:Asteraceae pollen ratio. *Quaternary Research*, 102: 24-38

Hesam, M., Roshan, G., **Grab, S.W.** and Shabahrami, A.R. 2021. Comparative assessment of farmers' perceptions on drought impacts: the case of a coastal lowland versus adjoining mountain foreland region of northern Iran. *Theoretical and Applied Climatology*, 143, 489-503.

Hoogendoorn, G., Stockigt, L., Saarinen, J. and **Fitchett, J.M.** 2021. Adapting to climate change: the case of snow-based tourism in Afriski, Lesotho. *African Geographical Review*, 40(1): 92-104.

Ilo, O.P., **Simatele, M.D.,** Nkomo, S.L., Mkhize, M.N. and Prabhu, H.G. 2021. Methodological approaches to optimising anaerobic digestion of water hyacinth for energy efficiency in South Africa. *Sustainability*, 13, 6746.

Jombo, S., **Adam E.** and Odindi, A. 2021. Classification of tree species in a heterogeneous urban environment using object-based ensemble analysis and World View-2 satellite imagery. *Applied Geomatics*, 13, 373-387.

Knight, J. 2021. Assessment practices in Geography under COVID-19: Limitations and opportunities. *Journal of Geography Education in Africa*, 4(1), 1-22.

Knight, J. 2021. Stratigraphy and palaeoenvironmental interpretation of late Quaternary colluvium in southern Africa. *South African Journal of Geology*, 124(4), 915-926.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF THE WITWATERSRAND

Publications continued:

- Knight, J.** 2021. The late Quaternary stratigraphy of coastal dunes and associated deposits in South Africa. *South African Journal of Geology*, 124(4), 995-1006.
- Knight, J.** and Burningham, H. 2021. The morphodynamics of transverse dunes on the coast of South Africa. *Geo-Marine Letters*, 41, 47, doi:10.1007/s00367-021-00717-4.
- Knight, J.** and **Fitchett, J.M.** 2021. A proposed chronostratigraphic framework for the late Quaternary of southern Africa. *South African Journal of Geology*, 124(4), 843-862.
- Knight, J.** and **Fitchett, J.M.** 2021. Place, space and time: Resolving Quaternary records. *South African Journal of Geology*, 124(4), 1107-1114
- Knight, J.** and **Grab, S.W.** 2021. Stratigraphy of late Quaternary mountain slope landforms and deposits in southern Africa and their significance for the dynamics of mountain sediment systems. *South African Journal of Geology*, 124(4), 863-878.
- Knight, J.** 2021. Environmental services: a new approach towards addressing Sustainable Development Goals in sub-Saharan Africa. *Frontiers in Sustainable Food Systems*, 5, 687863, doi:10.3389/fsufs.2021.687863.
- Kubanza, N.S.** 2021. The role of community participation in solid waste management in Sub-Saharan Africa: a study of Orlando East, Johannesburg, South Africa. *South African Geographical Journal*, 103(2), 223-236
- Kubanza, N.S.,** Matsika, R. and Magha, C.G. 2021. Exploring the role of local authorities and community participation in solid waste management in sub-saharan Africa: a study of Alexandra, Johannesburg, South Africa. *Local Environment*, DOI: 10.1080/13549839.2021.2010186
- Kylander, M.E., Holm, M., **Fitchett, J., Grab, S.W.,** Martinez Cortizas, A., Norström, E. and Bindler, R. 2021. Late glacial (17,060–13,400 cal yr BP) sedimentary and paleoenvironmental evolution of the Sekhokong Range (Drakensberg), southern Africa. *Plos one*, 16(3), p.e0246821.
- Mahlatse, K., **Mhangara, P.,** and Clement, A. 2021. Estimating Crop Biophysical Parameters using Machine Learning Algorithms and Sentinel-2 Imagery. *Remote Sensing*, 13, 4313. DOI: 10.3390/RS13214314.
- Martens C., Hickler T., Davis-Reddy C., **Engelbrecht F.A.,** Higgins S.I., Von Maltitz G.P., Midgley G.F., Pfeiffer M. and Scheiter S. 2021. Large uncertainties in future biome changes in Africa call for flexible climate adaptation strategies. *Global Change Biology*, 27, 340–358.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF THE WITWATERSRAND

Publications continued:

Lee, J.Y., Marotzke, J., Bala, G., Cao, L., Corti, S., Dunne, J.P., **Engelbrecht, F.**, Fischer, E., Fyfe, J.C., Jones, C., Maycock, A., Mutemi, J., Ndlaye, O., Panickal, S. and Zhou, T. 2021. Future Global Climate: Scenario-Based Projections and Near-Term Information. In: *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, 46O. Yelekçi, R. Yu and B. Zhou (eds.)]. Cambridge University Press.

Miller, R.M., Krapf, C., Hoey, T., **Fitchett, J.**, Nguno, A-K., Muyambas, R., Ndeutepo, A., Medialdea, A., Whitehead, A. and Stengel, I. 2021. A sedimentological record of fluvial-aeolian interactions and climate variability in the hyperarid northern Namib Desert, Namibia. *South African Journal of Geology*, 124(3): 575-610

Mpanza, M., **Adam, E.** and **Moolla, R.** 2021. A critical review of the impact of South Africa's mine closure policy and the winding-up process of mining companies. *The Journal for Transdisciplinary Research in Southern Africa*, 17(1), DOI: 10.4102/td.v17i1.985.

Mudau, N. and **Mhangara, P.** 2021. Investigation of informal settlement indicators in a densely populated area using Very High Spatial Resolution Satellite Imagery. *Sustainability*, 13, 4735. DOI: 10.3390/SU13094735.

Mukarugwiro, J., Newete, S., **Adam, E.**, Nsanganwimana, F., Abutaleb, K. and Byrne, M. 2021. Mapping spatio-temporal variations in water hyacinth (*Eichhornia crassipes*) coverage on Rwandan water bodies using multispectral imageries. *International Journal of Environmental Science and Technology*, 18, 275-286.

Mushawemhuka, W., **Fitchett, J.M.** and Hoogendoorn, G. 2021. Towards quantifying climate suitability for Zimbabwean nature-based tourism. *South African Geographical Journal*, 103(4): 443-463.

Mushawemhuka, W., Hoogendoorn, G. and **Fitchett, J.M.** 2021. Implications of misleading news reporting on tourism at the Victoria Falls, Zimbabwe. *Weather, Climate and Society*, 13: 1015-1025

Mutanga, O., Dhau, I., Dube, T., **Adam, E.** and Ayisi, K. 2021. Progress in detecting and mapping crop diseases, with particular reference to maize using remote sensing. *CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources*, 16, 41

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF THE WITWATERSRAND

Publications continued:

Nyoni, N.M.B, **Grab, S.W.**, Archer, E. and Malherbe, J. 2021 Temperature and relative humidity trends in the northernmost region of South Africa, 1950-2016. *South African Journal of Science*, 117, 1-11.

Picas, J. and **Grab, S.W.** 2021. Reconstruction of cold front frequency over Cape Town, South Africa, using daily mean sea level pressure values: 1834-1899. *International Journal of Climatology*, 41, 1784-1800.

Pillay, M.T. and ***Fitchett, J.M.** 2021. Southern hemisphere tropical cyclones: A critical analysis of regional characteristics. *International Journal of Climatology*, 41: 146-161.

Pillay, M.T. and **Fitchett, J.M.** 2021. On the conditions of formation of Southern Hemisphere tropical cyclones. *Weather and Climate Extremes*, 34, 100376.

Reid, M. and **Simatele, M.D.** 2021. Perspectives on energy insecurity and its impacts on urban livelihoods: Adaptation and resilience of women in the informal sector. *Frontiers in Sustainable Cities*, DOI: 10.1007/a10708-019-10085-3.

Robbins, J.L., Dirks, P.H.G.M., Roberts, E.M., Kramers, J.D., Makhubela, T.V., Hilbert-Wolf, H.L., Elliot, M., Wiersma, J.P., Placzek, C.J., **Evans, M.** and Berger, L.R. 2021. Providing context to the Homo naledi fossils: Constraints from flowstones on the age of sediment deposits in Rising Star Cave, South Africa. *Chemical Geology*, 567, 120108

Roffe, S.J., **Fitchett, J.M.** and Curtis, C.J. 2021. Investigating change in rainfall seasonality across South Africa: 1987-2016. *International Journal of Climatology*, 41(S1): 2031-2050.

Roffe, S.J., Fitchett, J.M. and Curtis, C.J. 2021. Quantifying rainfall seasonality across South Africa on the basis of the relationship between rainfall and temperature. *Climate Dynamics*, 56: 2431-2450.

Roshan, G., Sarli, R. and **Grab, S.W.** 2021. The case of Tehran's urban heat island, Iran: Impacts of urban 'lockdown' associated with the COVID-19 pandemic. *Sustainable Cities and Society*, 75, 103263.

Shikwambana, L., Mahlatse, K. and **Mhangara, P.** 2021. Temporal analysis of changes in anthropogenic emissions and urban heat islands during COVID-19 restrictions in Gauteng Province, South Africa. *Aerosol and Air Quality Research*, 21(9), DOI: 10.4209/AAQR.200437.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF THE WITWATERSRAND

Publications continued:

Shikwambana, L., **Mhangara, P.** and Mahlatse, K. 2021. Assessing the relationship between economic growth and emissions levels in South Africa between 1994 and 2019. *Sustainability*, 13, 2645. DOI: 10.3390/SU13052645.

Shikwambana, L., Nciphha, X., Sangeetha, S.K., Sivakumar, V. and **Mhangara, P.** 2021. Qualitative study on the observations of emissions, transport, and the influence of climatic factors from sugarcane burning: A South African Perspective. *International Journal of Environmental Research and Public Health*, 18, 7672. DOI: 10.3390/IJERPH18147672.

Sibanda, M., Mutanga, O., Chimonyo, V.G., **Shoko, C.**, Mazvimavi, D., Dube, T. and Mabhaudhi, T. 2021. Application of drone technologies in surface water resources monitoring and assessment: a systematic review of progress, challenges, and opportunities in the global south. *Drones*, 5(3), 84.

Stephenson, R. and **Sheridan, C.** 2021. Review of experimental procedures and modelling techniques for flow behaviour and their relation to residence time in constructed wetlands. *Journal of Water Process Engineering*, 41, 102044.

Stephenson, R., **Sheridan, C.** and Kappelmeyer, U. 2021. A curve-shift technique for the use of non-conservative organic tracers in constructed wetlands. *Science of the Total Environment*, 752, 141818.

Tantoh, H.N., **Simatele, D.M.**, Ebhuoma, E., Donkor, K. and McKay, T.J.M. 2021. Towards a pro-community-based water resource management system in Northwest Cameroon: practical evidence and lessons of best practices. *Geo-Journal*, 86, 943-961.

Tantoh, H.N., **Simatele, D.M.**, Ebhuoma, E., Donkor, K. and McKay, T.J.M. 2021. Towards a pro-community-based water resource management system in Northwest Cameroon: practical evidence and lessons of best practices. *Geo-Journal*, 86, 943-961.

Tantoh, H.B., McKay, T.J.M., Donkor, F.E. and **Simatele, M.D.** 2021. Gender Roles, Implications for Water, Land, and Food Security in a Changing Climate: A Systematic Review. *Frontiers in Sustainable Food Systems*. DOI: 10.3389/fsufs.2021.707835.

Van der Walt, A.J. and **Fitchett, J.M.** 2021. Exploring extreme warm temperature trends in South Africa: 1960-2016. *Theoretical and Applied Climatology*, 143: 1341-1360.

Van der Walt, A.J. and **Fitchett, J.M.** 2021. Trend analysis of cold extremes in South Africa: 1960-2016. *International Journal of Climatology*, 41(3): 2060-2081.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF THE WITWATERSRAND

MSc and PhD graduations and supervisors:

Adriaan van der Walt, PhD Geography, supervised by Prof Jennifer Fitchett and Prof Chris Curtis: An analysis of extreme temperature events in South Africa: 1960-2015

Amy Blair, PhD Geography, supervised by Prof Stefan Grab, Dr W. Twine and Dr D Thompson: The Complex Socio-ecological System of the Lowveld Marula Bioeconomy Catchment.

Anastacia Thandiwe Mpala, PhD Geography, supervised by Prof Mulala Simatele: Perspectives on adaptation to water scarcity and drought of small-scale farmers in Masvingo, Zimbabwe

Auther Maviza, PhD Geography, supervised by Prof Stefan Grab and Prof Francois Engelbrecht: An Assessment of the Impacts of Climate Change/variability and Landuse-Landcover Changes on Surface Runoff in the Upper Mzingwane Subcatchment, Zimbabwe

Emmah Mandishona, PhD Geography, supervised by Prof Jasper Knight: Rural wetland use and sustainability. The case of Honde Valley rural area in Zimbabwe.

Lombuso Shabalala, PhD Geography, supervised by Prof Ikechukwu Ezeuduji and Prof Mulala Simatele: The role of Cultural Heritage Tourism in Community Development in South Africa: A study of Mapungubwe World Heritage Site in Limpopo Province

Loveness Mabhungu, PhD Geography, supervised by Prof Elhadi Adam: A remote sensing-based approach for detecting and mapping the accumulation of heavy metal in *Phragmites australis* (Cav.) Trin. Ex Steud. And *Arundo donax* L. in wetlands influenced by gold mining.

Mandla Dlamini, PhD Geography, supervised by Prof Elhadi Adam: Quantifying and mapping the potential effects of agricultural activities on the lower uMfolozi catchment wetland area, KwaZulu Natal, South Africa using remote sensing.

Marc Wright, PhD Geography, supervised by Prof Stefan Grab: Historical Characteristics of Wind Variability in the Cape, South Africa: Implications for Wind Energy Forecasts

Memory Reid, PhD Geography, supervised by Prof Mulala Simatele: Perspectives on the impacts of the climate change-water-energy nexus on urban livelihoods in Zimbabwe.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF THE WITWATERSRAND

MSc and PhD graduations and supervisors continued:

Pamela Harvey, PhD Geography, supervised by Prof Stefan Grab: Volcanic Forcing: Modelling Impacts on Southern Hemisphere Temperatures.

Richard Quame Adome, PhD Geography, supervised by Prof Mulala Simatele: Analysis of Public Policies and Programmes for Water Security in Post-Apartheid South Africa.

Sellina Nkosi, PhD Geography, supervised by Prof Elhadi Adam: Characterizing the impact of African elephant (*Loxodonta Africana*) on woody vegetation in Venetia-Limpopo Nature Reserve using remote sensing techniques.

Simbarashe Jombo, PhD Geography, supervised by Prof Elhadi Adam: Mapping and monitoring urban trees in the city of Johannesburg using remote sensing techniques: The case of Randburg municipal area.

Takalanie Daniel Makananisa, PhD Geography, supervised by Prof Mulala Simatele: Veld-fire response readiness of district disaster centers: a study of the Limpopo province, South Africa.

Tiffany Fae-Henshall, PhD Archaeology, supervised by Prof Alex Schoeman and Prof Mulala Simatele: Digging through Betterment: An archaeological investigation into nineteenth and twentieth century farming in rural south-eastern South Africa

Bridget Fleming, MSc Geography, supervised by Dr Mary Evans: The status of GIS teaching in South African secondary schools including an evaluation of Free and Open Source Software for Geospatial (FOSS4G) using QGIS software and OpenStreetMap (OSM) data as teaching interventions.

Christiaan Steyn, MSc Geography, supervised by Prof Jennifer Fitchett and Dr Adriaan van der Walt: An analysis of extreme temperature events in Namibia.

Jasmin Patel, MSc, supervised by P. De Maayer and Prof S Grab: Analysis of the Microbial Diversity Associated with the Lesotho Highlands through Culture-independent Approaches.

Lucien James, MSc Geography, supervised by Prof Mulala Simatele: Phytoremediation: an assessment of the potential of *casuarina equisetifolia* in environmental rehabilitation in the mining industry of South Africa.

Lungile Ncube, MSc Geography, supervised by Prof Jennifer Fitchett and Prof Chris Curtis: A diatom-based palaeoclimatic reconstruction for the border of Leribe-Mokhotlong-Butha-Buthe, Eastern Lesotho Highlands.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF THE WITWATERSRAND

MSc and PhD graduations and supervisors continued:

Malesotse Cecilia Makgalemele, MSc Geography, supervised by Prof Mulala Simatele: The effectiveness of green buildings in climate change mitigation: a study of the city of Johannesburg.

Ngonidzashe Mangoro, MSc Geography, supervised by Dr Serge Kubanza: A study of the people's perceptions of the impact of solid waste management on human health and the environment in the informal settlement of Diepsloot, Johannesburg, South Africa.

Olebogeng Precious Koathai, MSc Geography, supervised by Prof Mulala Simatele: Artisanal and small-scale mining (ASM): the grey space of extra-legality in South Africa.

Sinoxolo Magaya, MSc Geography, supervised by Prof Jennifer Fitchett: Indigenous knowledge systems cues essential in agricultural management and tracking seasonality in KwaZulu-Natal and Eastern Cape, South Africa.

Alwande Nxumalo, MSc CWRR GIS and RS, supervised by Prof Elhadi Adam and Prof Stefan Grab: Mapping and Monitoring Long-term Changes in Gully Erosion: A case study from the Senekal Region, Eastern Free State.

Anele Tshabangu, MSc CWRR GIS and RS, supervised by Prof Elhadi Adam, co-supervised by Dr Cletah Shoko: Detecting Dwelling Structures in the Rural Areas of South Darfur, Sudan using High Resolution Satellite Imagery and object-based image analysis.

Audrey Mbatha, MSc CWRR GIS and RS, supervised by Dr Cletah Shoko: Identifying the determinants of housing prices in the City of Johannesburg for the year 2012: a spatial analysis approach.

Jennifer Murray, MSc CWRR GIS and RS, supervised by Dr Mary Evans: Mapping and monitoring shoreline changes along South Africa's southwestern coastline from 1937 to 2020 using multisource remote sensing data and techniques.

Mbali Khanyile, MSc CWRR GIS and RS, supervised by Prof Elhadi Adam, Co-supervised by Dr Cletah Shoko: Mapping and monitoring mesquite invasion in Aba Island, Sudan using remote sensing data and random forest classifier.

Nkosinathi Dube, MSc CWRR GIS and RS, co-supervised by Prof Paida Mgangara: Characterizing Rangeland Productivity across a Topographic Gradient in Bergville, South Africa.

Subashinidevi Pillay, MSc CWRR eScience, supervised by Prof Jennifer Fitchett and Dr Helen Robertson: Chatter About the Clouds of White: Using Social Media to Track the Annual Migration of *Belenois aurota*.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF THE WITWATERSRAND

2021 student numbers

1st year: 81 (with additional 59 Urban and Regional Planning students)

2nd year: 54

3rd year : 49

Honours: 37

Masters – Coursework and Research Report: 12

Masters – Research: 34

PhD: 81

*Link to departmental
webpage*

<https://www.wits.ac.za/gaes/>

Changes to their curriculum or course offerings:

From 2021 the School of Geography, Archaeology and Environmental Studies is introducing a major in environmental studies in the second and third year of the BSc and BA undergraduate programmes. This joins our new undergraduate major in Geospatial science which was introduced in 2019, and our existing double major in Geography. Within the school we also offer a major in Archaeology.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF MPUMALANGA

Name of department:

School of Biology and Environmental Sciences

Head of department:

Prof S. Mini

Information about the Geographers and their area of specialisation in the department:

- **Dr Julia Giddy**
Tourism Geographies
- **Mr Sakhile Nsukwini**
Rural Geography
- **Dr Wisemen Chingombe**
Physical Geography
- **Prof Simphiwe Mini**
Urban Geography

Exciting departmental news:

Dr Giddy won the SSAG Cenenary Award in 2021.

Dr Giddy was appointed as a fellow in the DHET NRF Future Professors Program, Phase 01, Cohort 2.

Prof Mini joined the staff at the end of 2021. He was appointed Head of School in January 2022.

2021/2022 List of publications:

Giddy, J.K. (2021). Uber and Employment in the Global South – Not so decent work. *Tourism Geographies*, 1-35.

Giddy, J.K. & Rogerson, J.M. (2021). Nature-based tourism enterprise adaptive responses to COVID-19 in South Africa. *GeoJournal of Tourism and Geosites*, 36(2), 1-21.



UNIVERSITY OF
MPUMALANGA

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF MPUMALANGA

publications Continued:

Adinolfi, M.C., Harilal, V. & **Giddy, J.K.** (2021). Leisure on lay-by: The post COVID-19 domestic tourism landscape in South Africa. *African Journal of Hospitality, Tourism and Leisure*, 10(1), 302-317.

Baum, T. & **Giddy, J.K.** (2021). The gig economy and employment in tourism in Southern Africa: A global finger in the informal sector pie? In J.M. Rogerson and J. Saarinen (Eds), *Tourism, Change and the Global South*. Routledge Publishing.

Produce Mukwenyi, **Wisemen Chingombe**, Ezra Pedzisai, Reniko Gondo & Remigios Mangizvo (2021) Land Use and Land Cover Changes at Hova Farm in Bindura District, Zimbabwe. *Journal of Sustainable Development*; Vol. 14, No. 4; 2021, ISSN 1913-9063 E-ISSN 1913-9071

Wisemen Chingombe and Happwell Musarandega (2021) From Cyclone Idai disaster to COVID-19 pandemic: An account of inadvertent social capital enhancement in Eastern Chimanimani, Zimbabwe. *Jàmbá: Journal of Disaster Risk Studies*. ISSN: 2072-845X, E-ISSN: 1996-1421

Musarandega, Happwell, **Wisemen Chingombe**, and Rajendran Pillay. (2021). "Unpacking Climate Change Adaptation Strategies: An Account of Smallholder Farmer Experiences in Chimanimani District, Zimbabwe". *Africanus: Journal of Development Studies* 50 (1):21 pages. <https://doi.org/10.25159/2663-6522/5730>.

Masiza, W., Hamandawana, H., & **Chingombe, W.** (2021) Monitoring changes in land use and land cover to ascertain the extent of degradation in the Savannahs of Raymond Mhlaba Local Municipality, Eastern Cape, South Africa. *INTERNATIONAL JOURNAL OF ENVIRONMENTAL STUDIES* <https://doi.org/10.1080/00207233.2021.1886557>

Chingombe, W.; Musarandega, H. (2021) Understanding the Logic of Climate Change Adaptation: Unpacking Barriers to Climate Change Adaptation by Smallholder Farmers in Chimanimani District, Zimbabwe. *Sustainability* 2021, 13, 3773. <https://doi.org/10.3390/su13073773>

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF MPUMALANGA

MSc and PhD graduations and supervisors:

N/A – our MSc program only began in 2021. There is currently one student enrolled in a MSc with a focus on Geography. Mr. L Mabila, supervised by Dr Julia Giddy is currently conducting a project on The Impact of COVID-19 on Business Tourism in Mbombela

Changes to their curriculum or course offerings:

We are now offering a MSc degree, where a specialization can be done in geography.

We also are now offering both a BSc Honours in Geography and a BA Honours in Geography.

Our PhD program has also now just been approved.

2021 student numbers

1st Year – Approx 400 students

2nd Year – Approx 100 students

3rd Year – Approx 30 students

Honours – N/A

Masters – 1 MSc student specializing in human geography

PhD – N/A

Link to departmental webpage

<https://www.ump.ac.za/Study-with-us/Faculties-and-Schools/Faculty-of-Agriculture-and-Natural-Sciences/School-of-Biology-and-Environmental-Sciences.aspx#:~:text=The%20School%20of%20Biology%20and,Water%20Resource%20Management%20and%20Zoology>

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

SOL PLAATJE UNIVERSITY

Name of department:

Physical and Earth Sciences
(Geography Unit)

- **Ms A.Gumede** (MSc, BScHons, BSc), Lecturer-Human Geography and Environmental Sciences.
- **Mr J. Hlatywayo** (MSc; MCom ,BSc Hons, Dip Ed), Lecturer-Human Geography and Environmental Sciences.

Head of department:

Dr J.S. Sefadi (Dr M. Manjoro is the Academic Unit Leader of the Geography Unit)

2021/2022 List of publications:

Information about the Geographers and their area of specialisation in the department:

•**Prof. Mohamed A. M. Abd Elbasit** (BSc, DipIT, MSc, PhD),Associate Professor-Geospatial Sciences and Physical Geograh.

•**Dr.T.A. Kabanda** (PhD, MSc, BScHons, BSc), Senior Lecturer-Geospatial Sciences and Environmental Sciences

•**Dr M.Manjoro** (PhD, MSc, BScHons, BScEd), Senior Lecturer, Physical Geography and Environmental Sciences

Babiker, A. E., M. H. Elnasikh, **M. A. M. Abd Elbasit**, A. I. Abuali, M. M. Abu-Zerig, and G. Liu. 2021. Potential of low-cost subsurface irrigation system in maize (*Zea mays* L.) production in high water scarcity regions. *Agricultural Engineering International: CIGR Journal*, 23(3):42-51.

Abd Elbasit, M.A.M.; Knight, J.; Liu, G.; Abu-Zreig, M.M.; Hasaan, R. Valuation of Ecosystem Services in South Africa, 2001–2019. *Sustainability* 2021, 13, 11262. <https://doi.org/10.3390/su132011262>.



SOL PLAATJE
UNIVERSITY

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

SOL PLAATJE UNIVERSITY

Publications Continued:

Kabanda, T.H., 2022. Using land cover, population, and night light data to assess urban expansion in Kimberley, South Africa. *South African Geographical Journal*, pp.1-14.

Chaukura, N., Riet, A., Mithi, D. and **Manjoro, M.**, 2022. Ceramic Nanocomposite Membranes for Dye Removal. In *Membrane Based Methods for Dye Containing Wastewater* (pp. 291-303). Springer, Singapore.

Masvosve T., Moeketsi M and **Hlatywayo J** (2021). Creation of Learning Opportunities for Electrical Engineering Students at Northern Cape Urban Technical Vocational Education and Training College. *Universal Journal of Educational Research*, Vol. 9, No. 6, pp. 1197-1213, 2021. DOI: 10.13189/ujer.2021.090609.

Changes to their curriculum or course offerings:

BSc.Hons Physical Sciences (Geography)
starting in 2022

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Name of department:

Geography (Potchesfstroom Campus)

Head of department:

- Prof Dirk Cilliers

Information about the Geographers and their area of specialisation in the department:

- Prof Dirk Cilliers; Associate Professor- Environmental Management / Spatial analysis Dirk.cilliers@nwu.ac.za 018 299 1589
- Prof Stuart Piketh; Professor and Director School of Geo and Spatial Sciences- Climatology and climate modelling Stuart.piketh@nwu.ac.za 018 299 1582
- Prof Dewald van Niekerk; Professor- Disaster risk management Dewald.VanNiekerk@nwu.ac.za 018-299-1634
- Prof Roelof Burger; Associate Professor- GIS and climate modelling Roelof.burger@nwu.ac.za 018 299 4269
- Prof Livhu NemaKonde; Associate Professor- Disaster risk management 24539155@nwu.ac.za 018-299-1671
- Dr Christo Coetzee; Senior Lecturer- Disaster risk management Christo.Coetzee@nwu.ac.za 018-299-1630
- Dr Claudine Roos; Senior lecturer- EMS & Waste management Claudine.roos@nwu.ac.za 018 299 1477
- Dr Theuns de Klerk; Senior lecturer- GIS Theuns.deklerk@nwu.ac.za 018 299 1583
- Mr Manna Stander.; Lecturer- Human Geography Manna.Stander@nwu.ac.za 018 299 1587
- Ms Carli Steenkamp; Lecturer- EIA and Environmental Planning Carli.steenkamp@nwu.ac.za 018 299 1523



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Associate members in the Research Unit for Environmental Science and Management

- Prof Harold Annegarn; Professor- Air pollution
- Prof Francois Retief; Professor- Environmental Assessment
Francois.retief@nwu.ac.za
- Prof Angus Morrison-Saunders; Extraordinary professor, visiting from Murdoch University, Perth- Environmental and Sustainability Assessment
A.Morrison-Saunders@murdoch.edu.au
- Dr Jenny Pope; Extraordinary senior lecturer, visiting from Integral Sustainability, Perth- Environmental and Sustainability Assessment
jenny@integral-sustainability.net
- Dr Alan Bond; Extraordinary fellow, visiting from University of East Anglia- Environmental and Sustainability Assessment
alan.bond@uea.ac.uk

Exciting departmental news:

Prof Luke Sandham retired at the end of 2021 after 35 years with the subject-group and ended his career as the acting dean of the Faculty of Humanities. He was the backbone of the subject-group for many years and helped it navigate through various challenges. Notwithstanding his wealth of teaching experience, Prof Luke continually strove to engage students with the latest teaching techniques and technologies. His teachable spirit, relaxed response to challenges, and his sincere interest in everyone around him are some of the attributes that his colleagues most cherished. His legacy will be that Geography remains a relevant discipline that provides answers to contemporary problems. We wish him all the best and happy retirement. He will be dearly missed.

Dr. Manna Stander obtained his PhD.

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2021/2022 List of publications:

- Kruger, L., Sandham, L. and Van Niekerk, D., 2021. SIA and DRA integration for increased resilience. *Impact Assessment and Project Appraisal*, pp.1-7.
- Fourie, K. and Terblanché-Greeff, A.C., 2021. How Disaster Risk Reduction Can Contribute to Sustainable Development: The EAGER Project. In *Sustainable Development in Africa*(pp. 649-669). Springer, Cham.
- Stander, J.H., Sandham, L.A. and Visser, G., 2021. The Geographies of Artists and Stall holders at Afrikaans Arts Festivals, South Africa. *African Journal of Hospitality, Tourism and Leisure*, pp.1630-1644.
- Alberts, R.C., Retief, F.P, Cilliers, D.P, Roos, C. and Haupfleisch, M (2021) 'Environmental Impact Assessment (EIA) effectiveness in protected areas', *Impact Assessment and Project Appraisal*, DOI: 10.1080/14615517.2021.1904377
- Alberts, R.C., Retief, F.P, Cilliers, D.P, Roos, C., Arts, J. and Fischer, T. (2021) 'EIA decision-making and administrative justice: An empirical analysis', *Journal of Environmental Planning and Management*, DOI: 10.1080/09640568.2021.1952857
- Roos, C., Baron, C, Cilliers, D.P., Alberts, R., Retief, F. & Moolman, J. (2021) 'Waste separation at source behaviour within the developing world context: Investigating households' awareness, practices and willingness', *South African Geographical Journal*, <https://doi.org/10.1080/03736245.2021.1980427>
- Cilliers, D.P., Roos, C., Retief, F.P, Alberts, R., and Bond, A. (2021) 'The validity of spatial data-based EIA screening decisions', *Environmental Impact Assessment Review*, online.
- Jabar, L., Siebert, S.J., Pfab, M. and Cilliers, D.P. (2021) 'Population biology and ecology of the Endangered *Euphorbia susannae* Marloth, an endemic to the Little Karoo, South Africa', *Biodiversitas*, (in print)
- Roos, C., Retief, F.P, Alberts, R. & Cilliers, D.P., 'Exploring attitudes, support and intent towards responsible waste management in private nature reserves', (2021) *Parks* (online)
- Kruger, L., Sandham, L., and Van Niekerk, D. 2021. SIA and DRA integration for increased resilience. *Impact Assessment and Project Appraisal*. <https://doi.org/10.1080/14615517.2021.1963932>

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Publications continued:

Bosher, L., Chmutina, K., and Van Niekerk, D. 2021. Stop going around in circles: Towards a reconceptualisation of disaster risk management phases. *Disaster Prevention and Management*. <https://doi.org/10.1108/DPM-03-2021-0071>

Sabela-Rikhotso, P.T.Z., Van Niekerk, D. and NemaKonde, L.D. 2021. A critical analysis of the legal frameworks governing oil spill management in South Africa. *Marine Policy*. 127. <https://doi.org/10.1016/j.marpol.2021.104433>.

NemaKonde, L., van Niekerk, D., Becker, P. and Khoza, S. 2021. Perceived Adverse Effects of Separating Government Institutions for Disaster Risk Reduction and Climate Change Adaptation Within the Southern African Development Community Member States. *International Journal of Disaster Risk Science*. <https://dx.doi.org/10.1007/s13753-020-00303-9>

Khoza, S., de Beer, L.T., Van Niekerk, D. and NemaKonde, L.D. 2021. A gender-differentiated analysis of climate smart agriculture adoption by smallholder farmers: Application of the Extended Technology Acceptance Model. *Gender, Technology and Development*. 25 (1). 1-12. <https://doi.org/10.1080/09718524.2020.1830338>

Chipangura, P., Van Niekerk, D., Van der Waldt, G. 2021. A constructivist framework for disaster risk policy in Zimbabwe. *International Journal of Risk Assessment and Management*. Vol.23 No.3/4, pp.236 - 254. <https://doi.org/10.1504/IJRAM.2020.114370>.

Bopape, M., NemaKonde, L.D. and Fourie, K., 2021. Private companies and community collaboration: Towards building disaster resilience in Diepsloot, Johannesburg, South Africa. *Jambá: Journal of Disaster Risk Studies*, 13(1).

Pienaar, A., Coetzee, C. and NemaKonde, L., 2021. Ongoing climate crises and obstacles to adaptation: Observations from the Ditsobotla Local Municipality, South Africa. *The Journal for Transdisciplinary Research in Southern Africa*, 17(1), p.10.

Khoza, S., NemaKonde, L.D. and Ncube, A., 2021. Fundamentals in Disaster Risk Reduction: From Hyogo to Sendai Framework and Beyond with an Elevation on Climate Change. In *Cyclones in Southern Africa* (pp. 73-86). Springer, Cham.

Coetzee, C., 2021. Simple rules and self-organisation: A complex systems' perspective on South Africa's COVID-19 response. *Jambá: Journal of Disaster Risk Studies*, 13(1), pp.1-4

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Publications continued:

ISSN: 2666-7908/2022 Assessment of criteria pollutants contributions from coal-fired plants and domestic solid fuel combustion at the South African industrial Highveld Cleaner Engineering and Technology 626667908 Adesina, J.A., Piketh, S.J., Qhekwana, M., Burger, R.P. and Mkhathshwa, G.

ISSN: 2667-0100/2021 Spatiotemporal variability of tropospheric NO₂ over four megacities in Southern Africa: Implications for transboundary regional air pollution Environmental Challenges 5100271 Matandirotya, N.R. And Burger, R.P. Published Elsevier.

ISSN: 1017-1703/2021 Source apportionment of ambient fine and coarse aerosols in Embalenhle and Kinross, South Africa Clean Air Journal 31-271-83 Walton, N.M., Piketh, S.J., van Zyl, P., Maenhaut, W., Burger, R.P., Language, B. and Formenti, P. Published.

ISSN: 1017-1703/2021 The quality of the first and second Vaal Triangle Airshed Priority Area Air Quality Management Plans Clean Air Journal 31-256-69 Moreoane, L., Mukwevho, P. and Burger, R.P. Published NACA
<https://doi.org/10.17159/caj/2020/31/2.12178>

ISSN: 2073-4433/2021 The health and economic benefits of reduced residential solid fuel burning on the South African Highveld Atmosphere 12-111405-1420 Lindeque, L.F., Burger, R.P. and S.J. Piketh Published MDPI.

ISSN: 1017-1703 2021 Quantifying potential particulate matter intake dose in a low-income community in South Africa Clean Air Journal 31-248-54 Wernecke, B., Burger, R.P., Language B., Wright, C.Y. and S.J. Piketh Published

ISSN: 0378-4738/2021 Chemical composition of rain at a regional background site in the South African Highveld Water SA 47-3326-337 Kok, L., van Zyl, P.G., Beukes, J.P., Swarts, J., Burger, R.P., Ellis, S., Josipovic, M., Vakkari, V., Laakso, L. and M. Kulmala Published Water Research Commission.

ISSN: 0038-2353/2021 Estimating lightning NO_x production over South Africa South African Journal of Science 117-9/10 127-137 Maseko, B., Feig, G. and Burger, R.P. Published Academy of Science of South Africa

ISSN: 1017-1703/2021 Intra-urban variability of PM 2.5 in a dense, low-income settlement on the South African Highveld Clean Air Journal 31-128-36 Moletsane, S.D., Adesina, J.A., Lindeque, F.A., Language, B., Nkosi, N.C., Burger, R.P., Mkhathswa, G. and S.J. Piketh Published NACA

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Publications continued:

ISSN: 1017-17032021 Opportunities for the application of low-cost sensors in epidemiological studies to advance evidence of air pollution impacts on human health Clean Air Journal 31-114-17 Wernecke, B., Wright, C.Y., Vande Hey, J., Piketh, S.J., Burger, R.P., Kunene, Z., Panchal, R., Millar, D., Oosthuizen, D.N., Batini, C., John, C., Guyatt, A.L., Packer, R.J., Tobin, M.D., Hansell, A., Gulliver, J., Cordell, R.L., Micklesfield, L.K., Ramsay, M., Gayenga, J., Gomez-Olive, F.X., Ngobeni, K., Baloyi, V. and Language, B. Published NACA

ISSN: 1558-84242021 A Fog Climatology at Abu Dhabi International Airport Journal of Applied Meteorology and Climatology 60223-236 Weston, M., Temimi, M., Burger, R.P. and Piketh, S.J. Published AMS Publications.

ISSN: 1021-447X 2021 Solid fuel use in electrified low-income residential areas in South Africa: The case of KwaDela, Mpumalanga Journal of Energy in Southern Africa 3258-67 Nkosi, N.C., Burger, R.P., Matandirotya, N.R., Pauw, C. and Piketh, S.J. Published The Department of Chemical Engineering of the University of Cape Town

ISSN: 0038-23532021 Source apportionment of ambient PM10-2.5 and PM2.5 for the Vaal Triangle, South Africa South African Journal of Science 117-5/672-83 Muyemeki, L., Burger, R.P., Piketh, S.J., Language, B, Beukes, J.P. and van Zyl, P.G. Published Academy of Science of South Africa

ISSN: 1017-17032020 Quantifying the effect of air quality offsets on household air pollution and thermal comfort on the South Africa Highveld. Clean Air Journal 30-123 Adesina, J.A., Piketh, S.J., Qhekwana, M., Burger, R.P., Language, B. and Mkhathshwa, G. Published NACA

MSc and PhD *graduations and* *supervisors*

- Y Meyer – Prof van Niekerk
- P Sabela-Rikhotso – Prof van Niekerk
- T Terblance – Prof van Niekerk
- C Claassens – Prof Cilliers
- M. Nariansamy - Ms C van Niekerk
- J De Jager – Ms C van Nikerk
- P Thobejane – Dr C Roos

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Graduations and supervisors continued:

- L Daniels – Dr C Roos
- C Haper – Dr C Roos
- M Mautla – Dr C Roos
- M Sehaswana – Dr C Roos
- Y – Engelbrecht – Dr L Kruger
- DM van Tonder – Dr L Kruger
- H Havenga – Prof S Piketh / R Burger
- P Chidhindi– Prof S Piketh / R Burger
- L Muyemeki– Prof S Piketh / R Burger
- T Marebane– Prof S Piketh / R Burger
- L Moreoane– Prof S Piketh / R Burger
- T Makgoale– Prof S Piketh / R Burger

2021 student numbers

<i>First years</i>	270
<i>Second years</i>	175
<i>Third years</i>	118
<i>Honours</i>	19
<i>Masters</i>	40
<i>A PhD's</i>	15

Changes to the curriculum or course offerings:

All undergraduate modules have now been aligned across our three campuses. A new honours programme in Geography is now being offered on the Vanderbijlpark Campus.

Link to departmental webpage:

<http://natural-sciences.nwu.ac.za/geography-and-environmental-management>

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UNIVERSITY OF PRETORIA

Name of department:

Geography, Geoinformatics and Meteorology

Head of department:

Professor Serena Coetzee

Information about the Geographers and their area of specialisation in the department:

- Dr. Adeleke Adedayo; Lecturer- Geoinformatics (Geodesy, Surveying) adedayo.adeleke@up.ac.za 0124203536
- Prof. Archer Emma; Associate Professor- Sustainable agriculture/managed ecosystems and climate in Africa emma.archer@up.ac.za 012 420 2881
- Prof Beckedahl Heinz; Extraordinary Lecturer-Geomorphology, wetland studies hbeckedahl@gmail.com +268 (0) 2518 8859
- Dr. Beraki Asmerom; Extraordinary Lecturer- Meteorology aberaki@csir.co.za
- Dr. Botai Joel; Extraordinary Lecturer - Atmospheric modelling, remote sensing Joel.botai@weathersa.co.za 012 423 9096
- Prof. Breetzke Gregory; Associate Professor- Geography of crime (GIS) greg.breetzke@up.ac.za 012 420 4318
- Dr. Chirima George; Extraordinary Lecturer – Geoinformatics ChirimaJ@arc.agric.za 012 310 2672
- Dr. Claassen Maius; Extraordinary Lecturer- Environmental science, ecology mclaasse86@gmail.com
- Prof. Coetzee Serena; Professor, Director: CGIS, HoD- Geoinformatics (spatial data infrastructures) serena.coetzee@up.ac.za 012 420 3823
- Prof. Combrinck Ludwig; Extraordinary Professor- Geodesy ludwig@hartrao.ac.za 012 301 3224
- Dr. Cooper Antony; Extraordinary Lecturer- Geographical Information Science (GISc) theory and applications acooper@csir.co.za 012 841 4121
- Dr. Davis Nerhene; Senior Lecturer- Human geography (land reform) Nerhene.davis@up.ac.za 012 420 2882
- Prof. Dyson Liesl; Associate Professor- Meteorology Liesl.dyson@up.ac.za 012 420 2469
- Dr. Engelbrecht Christine; Extraordinary Lecturer- Meteorology Christien.Engelbrecht@weathersa.co.za



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Geographers Continued:

- Mr. Esterhuizen Joos; Lecturer retired end 2020- Geoinformatics (surveying) Joos.esterhuizen@up.ac.za 012 420 4172
- Dr. Feig Gregor; Extraordinary Lecturer- Environmental science gregor@saeon.ac.za
- Prof . Garland Rebecca Associate Professor - Air quality, atmospheric composition, and impacts rebecca.garland@up.ac.za 012 420 4127
- Dr. Hansen Christel; Lecturer- Geomorphology, applied GIS christel.hansen@up.ac.za 012 420 4215
- Dr. Haussmann Natalie; Senior lecturer- Bio-geomorphology Natalie.haussmann@up.ac.za 012 420 4049
- Dr. Jordan Winifred; Extraordinary Lecturer- Meteorology Winifred.Jordaan@weathersa.co.za
- Mr. Katumba Samy; Lecturer- Geoinformatics Samy.katumba@up.ac.za 012 420 4943
- Mr. Kruger Andries; Extraordinary Lecturer- Meteorology Andries.kruger@weathersa.co.za 012 367 6016
- Prof. Landman Willem; Professor- Meteorology Willem.landman@up.ac.za 012 420 3713
- Mr. Loubser Michael; Lecturer- Geomorphology michael.loubser@up.ac.za 083 328 5754
- Dr Mathieu Renaud; Extraordinary Lecturer (until end 2019)- Geoinformatics (remote sensing) mathieurn@aim.com
- Dr. Ndarana Thando; Senior Lecturer- Meteorology thando.ndarana@up.ac.za 012 420 5164
- Dr Nsubuga Francis; Senior Lecturer- Climate change, Land use, Water resources management, Livelihoods francis.nsubuga@up.ac.za 012 420 2532
- Prof. Olivier Jana; Extraordinary Professor- Meteorology jana1@mweb.co.za
- Dr. Olwoch Jane; Extraordinary Lecturer- Climate change and environmental health jolwoch@sansa.org.za +264 (0) 61 223 9977
- Ms Du Preez Martella; Extraordinary Lecturer – Environmental Science martella.dupreez9@gmail.com
- Dr Gregory JJ; Lecturer- Urban Geography (urban and neighbourhood change) jj.Gregory@up.ac.za 012 420 2016

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

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Geographers Continued:

- Prof. Romoelo Abel; Director: Centre for Environmental Studies Geo-information Science (remote sensing), earth observation abel.ramoelo@up.ac.za 012 420 2017
- Dr Rautenbach Victoria; Senior Lecturer- Geoinformatics victoria.rautenbach@up.ac.za 012 420 3489
- Dr. Schmitz Peter; Extraordinary Lecturer- Geoinformatics schimpmu@unisa.ac.za 011 471 2262
- Adv. Snijman PJ; Extraordinary Lecturer- Environmental Law pjsnijman@gmail.com
- Dr. Tsele Philemon; Senior Lecturer- Geoinformatics (remote sensing) Philemon.tsela@up.ac.za 012 420 4939
- Dr. van Aardt Isa; Extraordinary Lecturer- Meteorology ivanaardt@vodamail.co.za
- Mr van der Merwe Barend; Lecturer- Application of AI in Geography barend.vandermerwe@up.ac.za 012 420 3699
- Dr van Deveter Heidi; Extraordinary Lecturer- GIS, geomorphology, freshwater ecosystems hvdeventer@csir.co.za
- Dr Wright Caradee; Extraordinary Lecturer- Public health, geography cwright@mrc.ac.za
- Mrs Hill Liesl; Extraordinary Lecturer- Aquatic ecosystem health assessment & management, freshwater ecotoxicology liesl.hill@gmail.com
- Ms. Cilliers Marinda; Course administrator- Administration CFES mcilliers@zoology.up.ac.za 012 420 4048
- Mrs Mahlangu Popi; Lab Assistant Popi.mahlangu@up.ac.za 012 420 2880
- Ms. Pretorius Erika; Senior technical assistant- Geoinformatics Erika.pretorius@up.ac.za 012 420 3737
- Mrs van Aardt Corne; Departmental Coordinator -Administration and Finances Corne.vanaardt@up.ac.za 012 420 2489
- Mr Snyman Lourens; Senior Cartographer- Geospatial Information Services lourens.snyman@up.ac.za 082 376 4063

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UNIVERSITY OF PRETORIA

E*xciting departmental news:*

Six of our staff members were awarded an improved [NRF](#) rating.

[Prof Abel Ramoelo](#) is a director for the [Centre of Environmental Studies](#) and associate professor in the Department of Geography, Geoinformatics and Meteorology, Faculty of Natural and Agricultural Sciences. He received a C2 rating from the NRF.

[Dr Natalie Haussmann](#) and [Dr Nerhene Davis](#) also received a C2 rating, with [Dr Thando Ndarana](#) receiving a C1 rating. [Dr Philemon Tsele](#) and [Dr Victoria Rautenbach](#) both received a Y2 rating. A description of ratings can be accessed [here](#).

[Prof Ramoelo's](#) core expertise in remote sensing and environmental sciences focuses on mapping vegetation health assessment, species (including invasive), biochemistry and productivity, and water quality and quantity. He uses passive or optical (hyperspectral and multispectral) and active remote sensing data at various scales for informing decisions about natural resource and environmental management (i.e., biodiversity conservation, land degradation, climate change impact, water resources), and food security. Currently, professor Ramoelo is also involved in projects focusing on land cover and land use mapping and change detection in natural, agricultural and urban landscapes.

He is an editor for three journals: Journal of Applied Earth Observation and Geoinformatics, Frontiers in Remote Sensing: Multi- and Hyperspectral Imaging, and Editor-in-Chief for Koedoe: African Protected Area Conservation and Science.

[Dr Natalie Haussmann](#) is a senior lecturer in the Department of Geography, Geoinformatics and Meteorology, Faculty of Natural and Agricultural Sciences. She is an ecologist with a specific interest in the interactions between ecology and geomorphology, also often referred to as biogeomorphology. She focuses on both anthropogenic and natural ecological disturbance in her research. As such, she supervises student projects focusing on the effect of disturbances (road construction, burrowing, plant invasion) on species richness and the composition of plants and animals. Her research interests have evolved over the years into two main streams of interest within this overarching umbrella of ecological disturbance. Her main research interest is, however, on burrowing mammals and their ecological impact. She has recently expanded her research to include burrowing within an agricultural context. This has broadened the scope and applicability of her research and facilitated projects both within the natural sciences and humanities, and engagement with the farming community in South Africa.

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D*epartmental news continued:*

[Dr Nerhene Davis](#) focuses on the social sciences with a specialization in land reform, land management, and rural development policy. Her primary research focus is centered around aspects of South African land reform policy and its impacts on land management and rural livelihoods. More recently, a secondary research concern for her has also been a focus on broader contextual issues surrounding land management and climate change adaptation.

[Dr Thando Ndarana](#), a senior lecturer in dynamic meteorology in GGM, NAS, received a C1 rating from the [NRF](#). His main research interests are using basic dynamic meteorology concepts such as wave activity, energetics and potential vorticity to understand the underlying dynamical processes that govern the evolution of rainfall bearing weather systems that propagate across the South Atlantic Ocean and eventually affect South Africa. He supervises masters and doctoral students in this field. Ndarana is considered a leading dynamic meteorologist in the South African atmospheric science landscape, and enjoys international recognition as one of few scientists that drive dynamic meteorology research in the country. He has previously served as a science steering committee member of [SPARC](#), which is a core project of the WMO's World Climate Research programme and was invited to serve in the International Commission of the Middle Atmosphere (ICMA).

[Dr Philemon L Tsele](#) received his PhD degree in geoinformatics from the University of Pretoria, South Africa, in 2019. He was a research fellow with the remote sensing research unit of the Meraka Institute, Council for Scientific and Industrial Research from 2009 to 2014, and subsequently with the South African Radio Astronomy Observatory, in Hartbeesthoek, from 2014 to 2018. Currently, Dr Tsele is a senior lecturer at the University of Pretoria in the Department of Geography, Geoinformatics, and Meteorology. He presents courses in physical principles of remote sensing, digital image processing, and advanced remote sensing. Furthermore, his research interests include thermal modelling of site-based optical telescopes, modelling vegetation biophysical and biochemical variables in natural environments, and validating remotely-sensed satellite products.

[Dr Victoria Rautenbach](#) also received a Y2 rating in Information Technology with a specialization in User experience, open-source for geospatial software, open data and community engagement in higher education.

We congratulate our exceptional achievers

The Department would like to congratulate our graduates on their respective outstanding achievements. Six of our students were recognised for their academic achievements and social involvement at the Faculty of Natural and Agricultural Sciences Dean's Exceptional Achiever's Function, which was held Wednesday 12 May 18:30-19:30.

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Departmental news continued:

Emma van Nierop received the prize for being the best BScHons Geoinformatics student; Marissa Swart for being the best BSc Hons Geography & Environmental Science students, and Donald Nkabinde for being the best BScHons Meteorology student. On undergraduate level, Kayla Theron and Gizelle van Niekerk were recognised for being the top achievers for BSc Geoinformatics and BSc Environmental Science respectively. Finally, Zelbe Boshoff was awarded the Green Award for Departmental Participation, the award that celebrates student participation in all aspects of the Department.

Marissa



Zelbe



MSc student, Azile Mdleleni, among Top 15 Young GEEKS OF 2021

[Azile Mdleleni](#) was voted as one of the [Top 15 Young GEEKS OF 2021](#). This initiative recognises local talent who work beyond the surface within the local Geek Culture. The role of Geekulcha is to create and enable platforms for Innovation and Creativity. In this regard, the organization also seeks to showcase the shifts and health of the South Africa Geek Culture. During the Youth Month, Geekulcha name and honor [Top 15 Young Geeks in South Africa](#). These are the minds marking their stamp and playing a greater role in the Digital Revolution. These are Geeks who have been identified as being a role player in the transformation. One gets nominated and selected to be on the list based on the work they had been doing and contributing to the SA tech ecosystem.

Donald



Emma



Gizelle



Kayla



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D*epartmental news continued:*

Honours students recognized at 2021 GeoforAll student competition

“[Geo for All](#)” is the Open Source Geospatial Foundation’s Committee for Educational outreach and works in close collaboration with ICA, ISPRS, UN-GIS, AGILE, UCGIS, IGU and other partners worldwide in our mission for making geospatial education and opportunities accessible to all. In 2021, GeoforAll had its first student competition to recognize the work done by students in their network. Two of our 2021 geoinformatics Honours students entered their research projects and were recognized for their work. Zebé Boshoff placed 3rd in the English presentation category with her project entitled, *An automated workflow for collecting and visualizing daily rainfall in South Africa*, which was supervised by Victoria Rautenbach and Prof Liesl Dyson. The results of her project are available here, https://zelbe04.github.io/research_project/. Nicholas de Kock was awarded the prize in the category for promising tools, for his project entitled, *autoESDA: An Open-Source Python Library for Automated Exploratory Spatial Data Analysis (ESDA)*. Nicholas is continuing with this project for his MSc Geoinformatics and hope to publish it soon as a QGIS plugin. You can read the winners announcement here, <https://www.osgeo.org/foundation-news/winners-announcement-pitch-your-research-geoforall-student-competition/>

Professor Willem Landman nominated for the Interim Coordinating Committee (ICG) of the new WCRP Home Regional Information for Society (RifS)

[Willem Landman](#), a professor in our Department and the author of the monthly [Seasonal Forecast Worx](#), has been appointed to the Interim Coordinating Committee (ICG) of the new [World Climate Research Programme \(WCRP\)](#) Home Regional Information for Society (RifS). The ICG is set up to coordinate the preparation of a draft science plan, governance, and structure for RifS. This draft science plan, governance and structure is scheduled to be presented to the WCRP Joint Scientific Committee at their 42th meeting for 28 June-2 July 2021.

Seasonal Forecast Worx & climate research

Read our monthly updates on weather prediction for the SADC region on our website at <https://www.up.ac.za/geography-geoinformatics-and-meteorology/article/2872667/seasonal-forecast-worx>. The archive of previous predictions are also available there. For more information on the state of seasonal forecasting read [this article](#) by Professor Landmann; for more insight into how South Africa is recording more maximum temperatures and how this trend is accelerating is available [here](#); read about how [more drought, dust storms and heavy rains are expected to spread disease](#), or [weather and climate may determine whether humankind survives or not](#)

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF PRETORIA

D*epartmental news continued:*

New study reveals mechanism for formation and discovery of fairy circles in Kalahari Desert

The hundreds of thousands of bare circular patches in the arid grasslands in the Namib Desert, commonly referred to as fairy circles, have puzzled the scientific community for decades. The fairy circles are mostly confined to a narrow strip, about 50 to 100 km inland from the Atlantic Ocean, which stretches down from southwestern Angola, through Namibia to north-western South Africa.

However, a new study revealed that they even occur in South Africa, in the Kalahari Desert.

[Prof Marion Meyer](#) from the [Department of Plant and Soil Sciences](#) commenced in 2015 with a multidisciplinary study on the effect of toxic Euphorbia species (milk bushes) on fairy circle soil chemistry and water hydraulics, their germination inhibition and antimicrobial activity on rhizosphere bacteria, along with three BSc Hons students. The researchers also wanted to determine if these Euphorbia plants could give rise to the current spatial characteristics (pattern) of fairy circles and therefore compared their current spatial patterning with those of fairy circles in four areas of Namibia. These studies eventually led to the completion of master's degrees for three students: JW Hurter, Nicole Galt and Christiaan Schutte (also supervised by [Prof Greg Breetzke](#) of the [Department of Geography, Geoinformatics and Meteorology](#)).

The results of these studies were recently published in BMC Ecology, a Springer Nature journal ([click here for a link to the paper](#)). This multidisciplinary study provides soil chemical, phytochemical and GIS spatial patterning evidence that fairy circles of Namibia are caused by dead Euphorbia species. The researchers propose that the Euphorbia spp. colonised sandy plains when climatic conditions were more favourable in the past. Since sandy soils have low water-holding capacity and might facilitate the formation of a hydraulically connected landscape, these plants would have been under pressure for water and nutrient availability. When climatic conditions became less favourable, the lack of water and competition for nutrients would have resulted in increased competition between these plants and many would have died. The temperature increase in Namibia during the last two or three decades is roughly three times more than the global mean temperature increase reported for the 20th century. Several other authors showed that drastic temperature increases and drier conditions were present in southern Africa on a number of occasions during the last few centuries.

It is further proposed that the decomposition of dead plants and the sticky latex altered the chemical properties of the sand, which manifested in the hydrophobicity of fairy circle soil.

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*D*epartmental news continued:

Various other compounds also entered the soil from the decaying euphorbias, some of which posed phytotoxic or allelopathic (the inhibition of growth by substances released by another plant) and antimicrobial activity. Most of these compounds would probably have broken down in a relatively short time, but the milky latex can adhere to the sand, become hard and can persist in soil for a long time. These changes to the soil cause the formation of many fairy circles and the transition proceeds from a site with only plants, to a mixed site with plants and fairy circles, and then a fairy circles-only site. This then results in a regular spatial pattern.

It has been observed that seeds do germinate inside fairy circles and seedlings emerge after a good rainfall, but survive only for short periods after rain. As the harsh desert conditions set in, it is proposed that the seedlings in the fairy circles die due to the soil water that infiltrates to depths beyond the reach of the roots of seedlings. In time, decades or even centuries, with the occasional rain, the effect left in the soil by euphorbias will slowly erode away, seedlings will survive for longer periods in the older fairy circles until they are eventually fully established and reach maturity, and the fairy circle will no longer be visible.

GC-MS soil analyses were done at the ITMO St Petersburg University in Russia, with the help of Prof Denis Baranenko, and revealed that soil from fairy circles and from under decomposing *E. damarana* plants are very similar in phytochemistry. Several compounds previously identified with antimicrobial and phytotoxic activity were also identified in *E. gummifera*.

And finally, by integrating rainfall, altitude and landcover in a GIS-based site suitability model, the researchers predicted where fairy circles should occur. The model largely agreed with the distribution of three *Euphorbia* species and resulted in the new discovery of fairy circles in the far southeast of Namibia and even in the Kalahari Desert of South Africa. Historical aerial imagery also showed that in a population of 406 *E. gummifera* plants in southern Namibia, 134 were replaced by fairy circles over a 50-year period.

This study provided supporting evidence that the *Euphorbia* theory can explain the formation of fairy circles at specific sites across Namibia, where these succulents co-occur with fairy circles. It was concluded that the allelopathic, adhesive, hydrophobic and toxic latex of *E. damarana*, *E. gummifera*, and possibly other species like *E. gregaria*, is the cause of the fairy circles. Further research in areas with many fairy circles where big populations of the large succulent euphorbias are currently not present, like in the Namib Rand Nature Reserve and Marienfluss, is in progress and focuses on DNA analyses of soil and ancient samples of plant pollen.

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Departmental news continued:

The fieldwork in the Namibian Desert was always interesting and even exciting, with occasions where desert lions, cheetah, elephants, snakes, etc. were encountered. The other co-authors who were involved in the strenuous fieldwork were [Petunia Degashu](#), who is doing her PhD on this project, and Nicole Meyer, Prof Meyer's wife, who is also a botanist.

Some of the media coverage on this interesting research:

[Africa's fairy circle mystery is solved](#)
[World The Times](#)

[Marion Meyer BBC Radio 18 Feb 2021](#)

Professor Ramoelo gives the keynote address at the Grassland Society of Southern Africa (GSSA)

[Professor Abel Ramoelo](#), the [Director for the Centre of Environmental Studies](#) housed at the Department of Geography, Geoinformatics and Meteorology, University of Pretoria was invited to give a keynote address at the [56th Grassland Society of Southern Africa \(GSSA\) Congress](#) held virtually from the 26 – 30th July 2021. The presentation titled Rangeland assessments and monitoring in the ever-changing environmental conditions: current earth observation and geoinformation science applications, was motivated by the unprecedented challenges rangelands are facing, while they are very critical for livestock production, and biodiversity conservation.

It is evident that global environmental changes including climate change and land use change threaten livelihoods and the resilience of rangeland ecosystem services. Specifically, anthropogenic factors leading to these changes are caused by the increasing human population, settlement expansions or urbanization, agricultural intensification both for crops and livestock production. On the other hand, future climate projections show higher frequency of droughts and erratic rainfall. There is clearly a need to effectively and efficiently monitor the extent and condition of our rangelands. To augment the conventional way of data collection, remotely sensed data offers opportunities to assess and monitor rangelands, through;

- Comprehensive spatial representation of the rangelands;
- Higher frequency of the data;
- Covering wider areas;
- Probable cost reduction;
- Acquisition of data in inaccessible area, e.g., rugged terrains;
- Non-destructive and regular way for data collection, and
- Instant information sharing to decision makers, i.e., planners, managers and policy makers.

The address showcased the results from various remote sensing studies to assess and monitor rangeland essential variables such as grass quality (nutrient concentrations, and species composition), and quantity (biomass, leaf area index, productivity) at multiple scales.

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Departmental news continued:

The talk further elucidated the use of remote sensing-based vegetation indices to assess the extent to which drought and land degradation are affecting our rangelands. The examples of rangeland products within and around protected areas derived using a suite of remote sensing data at multiple scales in the Savanna and Grassland Biome were presented. Remote sensing provides an avenue to map and monitor these essential variables for rangelands using the optical (Landsat, Sentinel-2 and MODIS) and active (Sentinel-1) domain effectively and efficiently. These successes are realized, when remote sensing data are combined with field data, through the suite of parametric and non-parametric modelling tools, i.e., from classical regression to machine learning techniques. Grass quality and quantity information can be integrated into the rangeland monitoring tool, i.e., from classical regression to machine learning techniques. Grass quality and quantity information can be integrated into the rangeland monitoring tool, poised to provide actionable information to inform decision-making processes by farmers, planners, managers and policymakers to safeguard our rangelands.

The department of Geography, Geoinformatics and Meteorology prepares its students to employ these various techniques to solve several environmental issues and challenges, such as those facing South African rangelands today.

Staff and student involvement in International Geomorphology Week

The [International Association of Geomorphologists \(IAG\)](#) celebrated [#IntGeomorphWeek2021](#) from 1-7 March. On 2 March between 09:00 and 13:00 the IAG celebrated Young Geomorphologists (or Emerging Career Researchers) and their work. [Mr Barend van der Merwe](#), a lecturer in our department, spoke about The Performance of Different CNN Architectures on Barchan Asymmetry on 2 March 11:00-11:20 local time (10:00-10:10 CET).

On 3 March between 09:00 and 11:30 the [Southern African Association of Geomorphologists \(SAAG\)](#), [SAAG Fellows Kate Rowntree](#) and [Heinz Beckedahl](#), as well as Renee Grundling, the current Chair of the [Southern African Young Geomorphologists \(SAYG\)](#), held an online session on aspects of geomorphology in southern Africa. The current chair of the SAYG is Renee Grundling, a Masters student in our Department. If you would like to know more about the local chapter of Young Geomorphologists, please have a look at <https://saageomorph.wixsite.com/saag/about-sayg>

Student field-trips & community engagement

The Department organised several field trips for some of our students. Due to Covid-19 restrictions, these were only possible for some of our senior students.

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Departmental news continued:

The GGY 780 class visited [Johannesburg and Soweto](#), the GGY 789 class visited [Florisbad in the Free State](#), the GGY 361 class visited [Lebenya Farm near Swartruggens, North West Province](#), and the [GGM Community Engagement donate seedlings to Moja Gabedi and other community gardens across City of Tshwane](#)

New staff members, and one resignation

In 2021 and 2022 we welcomed three new members to our team and said goodbye to one of our team. [Prof Abel Ramoelo](#) joined us as the Director of the [Centre for Environmental Studies \(CFES\)](#), and Associate Professor at the [Department of Geography, Geoinformatics and Meteorology](#), whereas [Prof Rebecca Garland](#) joined the meteorology and environmental sciences teams as an Associate Professor. Dr JJ Gregory, who broadly focuses on urban geography, joined us as a lecturer. We also bid goodbye to [Dr Francis Wasswa Nsubuga](#).

[Prof. Abel Ramoelo](#) was trained as an environmental scientist with Geospatial skills - remote sensing and geographic information systems, completing first and second degrees in Environmental Sciences with Geography, Ecology and Resource Management as major subjects at the University of Venda, 2003 and 2004, respectively.

He then completed his MSc in Geoinformation Science and Earth Observation for Environmental Management and Modelling at four European Universities: University of Southampton (UK), Lund University (Sweden), Warsaw University (Poland) and Faculty of Geoinformation Science and Earth Observation (ITC), University of Twente (The Netherlands). As a remote sensing specialist by profession, he holds a PhD in remote sensing from the University of Twente (The Netherlands).

Prof Ramoelo worked as a Earth Observation research scientist for over-14 years, from Junior to Principal Researcher level, at the then Natural Resource and Environment Unit of the [Council for Scientific and Industrial Research \(CSIR\)](#). In 2018, he joined [South African National Parks \(SANParks\)](#) as a Regional Ecologist. At SANParks, he not only focused on remote sensing research for assessing the vegetation state and change in National Parks, but also coordinated research activities beyond SANParks, worked as a conduit between scientists and management on addressing matters of biodiversity conservation.

Prof Ramoelo has published over 70 peer-reviewed scientific and conference papers, as well as book chapters. A registered Professional Natural Scientist in the field of Geospatial Science with the [South African Council for Natural Scientific Professions \(SACNASP\)](#).

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Departmental news continued:

he is also an [NRF](#) rated scientist with core expertise on mapping vegetation health assessment, species (including invasive), biochemistry, and productivity as well as water quality and quantity using optical (hyperspectral and multispectral) and active (LiDAR, and SAR) remote sensing data at various scales, for informing decision about natural resource and environmental management (i.e., biodiversity conservation, land degradation, climate change impact, water resources), and food security. Currently, Prof. Ramoelo is also involved in projects focusing on land cover and land use mapping, and change detection in natural, agricultural, and urban landscapes.

Having [successfully supervised over 17 MScs and PhDs](#), he currently supervises several Honours, Masters, and Doctoral candidates with various Universities. An active reviewer for several local and international journals, he is a member of the Editorial Board for the [ISPRS International Journal of Photogrammetry and Remote Sensing](#), as well as an Associate Editor for the [International Journal of Applied Earth Observation and Geo-Information Science](#); Editor-in-Chief for SANParks' [KOEDOE: African Protected Area Conservation and Science](#) journal, and Associate Editor for [Frontiers in Remote Sensing: Multi- and Hyper-Spectral Imaging](#).

He is a member of the [Geo-Information Society of South Africa \(GISSA\)](#), [South African Wetland Society](#), the [African Association on Remote Sensing of Environment \(AARSE\)](#), and the [International Association of Landscape Ecology \(IALE\)](#). The CFES and Department welcome Professor Ramoelo and look forward to working with him.

[Prof Rebecca Garland](#) recently joined the University of Pretoria as an Associate Professor at the Department of Geography, Geoinformatics and Meteorology. She is an [NRF](#)-rated researcher with over 20 years' experience in research in the atmospheric science, atmospheric biogeochemistry, atmospheric chemistry, and climate change fields.

Her research interests focus on improving our understanding of air quality and atmospheric composition, and their impacts, in southern Africa using a variety of tools and data streams. Many of her projects have also worked at the science-policy interface, working to provide a strong evidence base for air quality management in South Africa, with newer projects increasingly working across Africa. Currently, she is Coordinating Lead Author for the Climate and Clean Air Coalition (CCAC) and UNEP [Integrated Assessment of Air Pollution and Climate Change in Africa](#) that will provide a framework of actions to improve air quality across the continent.

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Departmental news continued:

She is active in national and international working groups, with an aim to support and grow the atmospheric science community across Africa. This includes her roles as Co-Editor of the [Clean Air Journal](#), Vice President of the [South African Society for Atmospheric Sciences](#), Scientific Steering Committee of the [International Global Atmospheric Chemistry \(IGAC\) Project](#), and in the development and growth of the IGAC regional working group [African Group on Atmospheric Science \(ANGA\)](#). Additionally, she is a member of the steering committee member of [AfricAir](#) and MAP-AQ, as well as acting on the Science Advisory Group of the GAW Urban Research Meteorology and Environment ([GURME](#)) project and [CCAC](#). Prof Garland received her PhD in Chemistry from the University of Colorado, Boulder (USA) focusing on laboratory studies of aerosol particles. Her PhD research focused on the impact of particle composition on chemistry and water uptake as well as developing empirical parameterizations for the relationship between aerosol particle composition, water uptake and optical properties. During her PhD she was also a graduate researcher at the Earth Systems Laboratory in NOAA (USA).

She was a postdoctoral research in the Biogeochemistry Department at the Max Planck Institute for Chemistry (Germany), where she focused on field studies of the optical and biological properties of aerosol particles. After her postdoc, she was a AAAS Science and Technology Policy Fellow working as an analyst in the Office of Energy Efficiency and Renewable Energy in Washington DC, USA. Prof Garland joined the Council for Scientific and Industrial Research (South Africa) in 2011. Working in the Climate and Air Quality Modelling Group, she established the current atmospheric composition, and climate change and health research areas in the group, as well as led the research focusing on aerosol particle impacts on climate in southern Africa.

[Dr JJ Gregory's](#) research interests broadly focus on urban geography and is particularly interested in aspects of urban and neighbourhood change in the post-apartheid city. He has published work on the role of creative industries in urban regeneration, with his PhD research and more recent work focusing on socio-spatial changes related to student geographies and studentification. Dr Gregory is a member of the Society of South African Geographers (SSAG) and deputy chairperson for the SSAG Students and Young Professionals Group.

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2022/2022 List of publications:

Adeyemi A, Ramoelo A, Cho MA, Masemola C (2021). Spectral index to improve the extraction of built-up area from WorldView-2 imagery. *Journal of Applied Remote Sensing*, 15 (2), pp. 1 - 19.

Akanbi R, Davis NC, Ndarana T (2021). Assessing South Africa's institutional adaptive capacity to maize production in the context of climate change: Integration of a socioeconomic development dimension. *Integrated Environmental Assessment and Management*, 17 (5), pp. 1056 - 1069.

Akanbi R, Davis NC, Ndarana T (2021). Climate change and maize production in the Vaal catchment of South Africa: assessment of farmers' awareness, perceptions and adaptation strategies. *Climate Research*, 82 pp. 191 - 209.

Archer E, Landman WA, Malherbe J, Maluleke P, Weepener H (2021). Managing climate risk in livestock production in South Africa: How might improved tailored forecasting contribute? *Climate Risk Management*, 32 (100312), pp. 1 - 7.

Barasa P, Botai C, Botai OJ, Mabhaudhi T (2021). A Review of Climate-Smart Agriculture Research and Applications in Africa. *Agronomy-Basel*, 11 (6), pp. 1 - 26.

Barnes MA, Ndarana T, Landman WA (2021). Cut-off lows in the Southern Hemisphere and their extension to the surface. *Climate Dynamics*, 56 (11-12), pp. 3709 - 3732.

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Publications Continued:

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Chirima JG (2021). Do Satellite Data Correlate with In Situ Rainfall and Smallholder Crop Yields? Implications for Crop Insurance., 14(1670), pp. 1 - 14.

Coetzee SM, Snyman LF, Delpont R (2021). Revealing the value of geospatial information with isochrone maps for improving the management of heart attacks in South Africa. *International Journal of Cartography*, 7 (2), pp. 184 - 189.

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Publications Continued:

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Publications Continued:

Hedding D, Breetzke GD (2021). "Here be dragons!" The gross under-representation of the Global South on editorial boards in Geography. *Geographical Journal*, 187 (4), pp. 331 - 345.

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Publications Continued:

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Mashaba-Munghemezulu ZO, Chirima JG, Munghemezulu C (2021). Modeling the Spatial Distribution of Soil Nitrogen Content at Smallholder Maize Farms Using Machine Learning Regression and Sentinel-2 Data. *Sustainability*, 13 (21), pp. 1 - 23.

Masiza W, Chirima JG, Hamandawana H, Kalumba A, Magagula H (2021). Linking Agricultural Index Insurance with Factors That Influence Maize Yield in Rain-Fed Smallholder Farming Systems. *Sustainability*, 13 (9), pp. 1 - 13.

Mason S, Ferro C, Landman WA (2021). Forecasts of "normal". *Quarterly Journal of the Royal Meteorological Society*, 147 (735), pp. 1225 - 1236.

McBride C, Kruger AC, Dyson LL (2021). Trends in probabilities of temperature records in the non-stationary climate of South Africa. *International Journal of Climatology* pp. 1 - 14.

McIntyre T, Haussmann NS (2021). Declining citation accuracy in polar research. *Polar Record*, 57 (e43), pp. 1 - 5.

Mengistu M, Olivier C, Botai OJ, Adeola AM, Daniel S (2021). Spatial and temporal analysis of the mid-summer dry spells for the summer rainfall region of South Africa. *WaterSA*, 47 (1), pp. 76 - 87.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF PRETORIA

Publications Continued:

Ncongwane K, Botai OJ, Sivakumar V, Botai C (2021). A Literature Review of the Impacts of Heat Stress on Human Health across Africa. *Sustainability*, 13 (9), pp. 1 - 27.

Ndarana T, Mpati SA, Bopape M, Engelbrecht F, Chikoore H (2021). The flow and moisture fluxes associated with ridging South Atlantic Ocean anticyclones during the subtropical southern African summer. *International Journal of Climatology*, 41 (S1), pp. E1000 - E1017.

Ndarana T, Rammopo T, Bopape M, Reason C, Chikoore H (2021). Downstream development during South African cut-off low pressure systems. *Atmospheric Research*, 249 (105315), pp. 1 - 15.

Nel W, Boelhouwers J, Borg C, Cotrina J, Hansen CD, Haussmann NS, Hedding D, Meiklejohn K, Nguna A, Rudolph E (2021). Earth science research on Marion Island (1996-2020): a synthesis and new findings. *South African Geographical Journal*, 103 (1), pp. 22 - 42.

Nghiyalwa H, Urban M, Baade J, Smit I, Ramoelo A, Mogongong B, Schmutlius C (2021). Spatio-Temporal Mixed Pixel Analysis of Savanna Ecosystems: A Review. *Remote Sensing*, 13 (19), pp. 1 - 29.

Nivette A, Zahnow R, Aguilar R, Ahven A, Amram S, Ariel B, Burbano M, Astolfi R, Baier D, Breetzke GD (2021). A global analysis of the impact of COVID-19 stay-at-home restrictions on crime. *Nature Human Behaviour*, 5 pp. 868- 877.

Nondlazi B, Cho MA, van Deventer H, Sieben E (2021). Determining the Wetland-Dryland Boundary of Depressions Using Littoral Gradient Analysis of Soil Edaphic Factors. *Wetlands*, 41 (6), pp. 1 - 14.

Nsubuga FWN, Mearns K, Davis NC, Kalumba A, Komen K (2021). Exploring the influence of climate change and capital assets on livelihood formations in central region of Uganda. *Environment Development and Sustainability*, 23 (6), pp. 9223 - 9242.

Nuwarinda H, Ramoelo A, Adelabu S (2021). Assessing natural resource change in Vhembe biosphere and surroundings. *Environmental Monitoring and Assessment*, 193 (7), pp. 1 - 16.

Nyoni N, Grab S, Archer E, Hetem R(2021). Perceived impacts of climate change on rural poultry production: a case study in Limpopo Province, South Africa. *Climate and Development*.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF PRETORIA

***P**ublications Continued:*

Nyoni N, Grab S, Archer E, Malherbe J (2021). Temperature and relative humidity trends in the northernmost region of South Africa, 1950-2016. *South African Journal of Science*, 117 (11/12), pp. 1 - 11.

Olabanji M, Davis NC, Ndarana T, Kuhudzai A, Mahlobo D (2021). Assessment of smallholder farmers' perception and adaptation response to climate change in the Olifants catchment, South Africa. *Journal of Water and Climate Change*, 12 (7), pp. 3388 - 3403.

Olabanji M, Ndarana T, Davis NC (2021). Impact of Climate Change on Crop Production and Potential Adaptive Measures in the Olifants Catchment, South Africa. *Climate*, 9 (1), pp. 1 - 19.

Pedder H, Kapwata T, Howard G, Naidoo R, Kunene Z, Morris R, Mathee A, Wright CY (2021). Lagged Association between Climate Variables and Hospital Admissions for Pneumonia in South Africa. *International Journal of Environmental Research and Public Health*, 18 (12), pp. 1 - 16.

Perold V, Ferguson JWH, Verburgt L, Malherbe JB (2021). Are high elevation crag lizards sensitive to climate change? *Austral Ecology*, 46 (3), pp. 359 - 373.

Pijper LK, Breetzke GD, Edelstein I (2021). Building neighbourhood-level resilience to crime: the case of Khayelitsha, South Africa. *South African Geographical Journal*, 103 (3), pp. 342 - 357.

Schutte F, Breetzke GD, Edelstein I (2021). The Relationship Between Temperature and Crime on the Cape Flats of South Africa. *International Journal of Criminal Justice Sciences*, 16 (1), pp. 127 - 145.

Sibolla BH, Van Zyl T, Coetzee SM (2021). Determining Real-Time Patterns of Lightning Strikes from Sensor Observations. *Journal of Geovisualization and Spatial Analysis*, 5 (1), pp. 1 - 18.

Simelane S, Hansen CD, Munghemezulu C (2021). The Use of Remote Sensing and GIS for Land Use and Land Cover Mapping in Eswatini: A Review. *South African Journal of Geomatics (formerly South African Journal of Surveying and Geo-Information)*, 10 (2), pp. 181 - 206.

Svinurai W, Hassen A, Tesfamariam EH, Ramoelo A (2021). Modelled effects of grazing strategies on native grass production, animal intake and growth in Brahman steers. *African Journal of Range & Forage Science*, 38 (1), pp. 41 - 51.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF PRETORIA

Publications Continued:

Svinurai W, Hassen A, Tesfamariam EH, Ramoelo A, Cullen B (2021). Calibration and evaluation of the Sustainable Grazing Systems pasture model for predicting native grass aboveground biomass production in southern Africa. *African Journal of Range & Forage Science*, 38 (1), pp. 28 - 40.

Urban M, Hirner A, Ziemer J, Mueller M, Gessner U, Baade J, Mogonong B, Morgenthal T, Feig G, Ramoelo A (2021). Sentinel-1 and Sentinel-2 time series breakpoint detection as part of the South African Land Degradation Monitor(SALDi). *IGARSS 2021 - 2021 IEEE International Geoscience and Remote Sensing Symposium*, 12-Jul-2021 - 16-Jul-2021.

van der Merwe BJ (2021). The relationship between barchan size and barchan morphology: a case study from Northern Namibia. *South African Geographical Journal*, 103 (1), pp. 119 - 138.

van Deventer H (2021). Monitoring changes in South Africa's surface water extent for reporting Sustainable Development Goal sub-indicator 6.6.1.a. *South African Journal of Science*, 117 (5/6), pp. 1 - 5.

van Deventer H, Adams J, Durand J, Grobler R, Grundling P, Janse van Rensburg S, Jewitt D, Kelbe B, MacKay C, Naidoo L (2021). Conservation conundrum - Red listing of subtropical-temperate coastal forested wetlands of South Africa. *Ecological Indicators*, 130 (108077), pp. 1 - 14.

Wright CY (2021). Household air pollution and respiratory symptoms a month before and during the stringent COVID-19 lockdown levels 5 and 4 in South Africa.

Wright CY, Kapwata T, du Preez DJ, Wernecke B, Garland R, Nkosi V, Landman WA, Dyson LL, Norval M (2021). Major climate change-induced risks to human health in South Africa. *Environmental Research*, 196 pp. 1 - 11.

Wright CY, Norval M (2021). Health Risks Associated with Excessive Exposure to Solar Ultraviolet Radiation Among Outdoor Workers in South Africa: An Overview. *Frontiers in Public Health*, 9 (678680), pp. 1 - 10.

Zinyemba C, Archer E, Rother H (2021). Climate Change, Pesticides and Health: Considering the Risks and Opportunities of Adaptation for Zimbabwean Smallholder Cotton Growers. *International Journal of Environmental Research and Public Health*, 18 (1), pp. 1 - 11.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF PRETORIA

MSc and PhD graduations and supervisors:

Addresses in informal settlements of South Africa: an evaluation of alternatives to conventional addressing. Naidoo, Yashena. (2021). MSc Geoinformatics. Supervisor: Serena Coetzee, co-supervisor: Victoria Rautenbach

Drivers of farmer-wild dog *Lycaon pictus* conflict in the Waterberg Biosphere Reserve. Dube Lungelo Jabulile. MSc. (2021). Supervisor: Dr FWN Nsubuga, Prof DM Parker

Ecology of wild and domestic suids in relation to the epidemiology of African swine fever in northern KwaZulu-Natal. Mapendere, Cynthia (2021) MSc. Supervisor: JWH Ferguson, co-supervisors: Eric Etter & F. Jori

The effects of roads on medium to large mammals in the Kruger National Park, South Africa. Malherbe, Misha. (2021) MSc. Supervisor: Natalie Haussmann

Exploring custodianship roles and responsibilities for cadastral data in the context of the South African Spatial Data Infrastructure. Motswenyane, Mokgethi S. (2021). MSc Geoinformatics. Supervisor: Serena Coetzee, co-supervisor: Antony Cooper.

Historical gully erosion growth in the Lower Thina Catchment, Eastern Cape. Boihang, Lerato M. (2021) MSc Environmental Management. Supervisor: Christel Hansen

The Impact of High-Resolution Soil Moisture States on Short-Term Numerical Weather Prediction of Convective Initiation over South Africa. Engelbrecht, Edward H. (2021). MSc Meteorology. Supervisor: Willem Landman, co-supervisor: Stephanie Landman

Invertebrate species of the Mariepskop Summit, Mpumalanga Province, South Africa: Affinities with Afromontane Natal Drakensberg fynbos and Cape fynbos. Taylor, Liesl (2021). MSc. Supervisor: David H Jacobs, co-supervisors: JWH Ferguson & Ansie Dippenaar

Managing, organising and sharing fine-grained data in the spatial design disciplines – An evaluation of a GeoNode prototype. Green, Cameron L. (2021). MSc Geoinformatics. Supervisor: Victoria Rautenbach, co-supervisor: Serena Coetzee

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF PRETORIA

MSc and PhD graduations and supervisors Continued:

Review and verification study of atmospheric visibility reduction during fog and mist. de Beer, Anika (2021). MSc Meteorology. Supervisor: Willem Landman, co-supervisor: Stephanie Landman

The role of neighbourhood environments on promoting resilience to crime in informal settlements: A study of Khayelitsha, South Africa. Pijper, Lauren K. (2021) MSc Geoinformatics. Supervisor: Gregory Breetzke

Changes in surface solar ultraviolet (UV) radiation related to changes in atmospheric conditions over South Africa. Du Preez, David J. (2021). PhD Meteorology. Supervisor: Caradee Wright. co-supervisor: Hassan Bencherif

Climate change implications on water availability and crop production: Exploring adaptation strategies in the Olifants River Basin, South Africa. Olabanji, Mary F. (2021). PhD Environment and Society. Supervisor: Thando Ndarana, co-supervisor: Nerhene Davis.

[The dynamics of cut-off lows and their vertical extension to the surface.](#) Barnes, Michael A. (2021). PhD Meteorology. Supervisor: Thando Ndarana, co-supervisor: Willem Landmann

Heat extremes and impacts on mortality in South Africa: Towards the development of a heat health early warning system. Kapwata, Ngoza T. (2021). PhD Geography. Supervisor: Caradee Wright, co-supervisor: Michael Gebreslasie (UKZN)

Investigations into the estimation of deciduous Savanna woody structural variables using multi-temporal C-band Synthetic Aperture Radar (SAR) imagery. Main, Russell S. (2021). PhD Geoinformatics. Supervisor: Renaud Mathieu, co-supervisor: Konrad Wessels.

Modelling and assessing the impact of change in forest cover on water resources provision in rural Uganda. Ssentongo, Ausi Abubakar A. (2021). PhD Environment and Society. Supervisors: FNW Nsubuga, Dan Darkey

Towards understanding geographic information competencies: The case of decision-making in environmental impact assessments in South Africa. Hlela, S.B.P (2021). PhD Geography. Supervisor: Serena Coetzee, co-supervisor: Antony Cooper

Understanding the dynamics and coping mechanisms as deployed by maize producers in the context of a changing climate: The Vaal River catchment as a case study. Ankabi, Remilekun T. (2021). PhD Environment and Society. Supervisor: Nerhene Davis, co-supervisor: Thando Ndarana.

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2021 student numbers:

Degree	Graduated 2020	Enrolled 2021
BSc: Geography & Environmental Sciences	32	119
BSc: Geoinformatics	19	54
BSc: Meteorology	5	35
BScHons: Geography and Environmental Science	10	13
BScHons: Geoinformatics	5	22
BScHons: Meteorology	10	5
BSocSciHons: Geography and Environmental Science	1	6
MA: Environment and Society	1	12
MA: Geography	0	3
MSc: Environment and Society	2	2
MSc: Environmental Management	2	19
MSc: Geography	1	3
MSc: Geoinformatics	6	18
MSc: Meteorology	/	14
PhD: Air Quality Management	1	2
PhD: Environment and Society (Science)	1	6
PhD: Environmental Management (Science)	/	5
PhD: Geography (Science)	2	10
PhD: Environment and Society (Humanities)	/	2
PhD: Geography (Humanities)	/	1
PhD: Geoinformatics	1	13
PhD: Meteorology	1	9
TOTAL	100	393

Changes to the curriculum or course offerings:

Comprehensive information on all our degree program offerings can be found at <https://www.up.ac.za/geography-geoinformatics-and-meteorology/article/20918/academic-programmes>.

Geography & Environmental Science

The BSc Geography and BSc Environmental Sciences degree offers 7 areas of specialisation. These are 5 majors in the natural sciences, namely 1) Ecology, 2) Geoinformatics, 3) Meteorology, 4) Plant Science, and 5) Soil Science. Two majors are offered in the humanities, namely 6) Anthropology, and 7) Heritage and Cultural Tourism.

Geoinformatics

The BSc Geoinformatics and BScHons Geoinformatics degrees are accredited by the South African Geomatics Council for the period 2019-2023.

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*Changes to the curriculum
continued:*

Meteorology

The BSc Meteorology degree offers 5 areas of specialisation. These are majors in 1) Applied mathematics, 2) Geography and environmental science, 3) Geoinformatics, 4) Statistics, and 5) Zoology.

The BSc Meteorology and BScHons Meteorology degrees are *BIP-M compliant according to the World Meteorological Organization (WMO)*.

Centre for Environmental Studies (CFES)

The Centre for Environmental Studies received a new Director, Professor Abel Ramoelo in 2021. The Centre's website is

<https://www.up.ac.za/centre-for-environmental-studies>.

***L**ink to departmental webpage:*

<https://www.up.ac.za/geography-geoinformatics-and-meteorology> or
www.up.ac.za/ggm

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UNIVERSITY OF PRETORIA EDUCATION

Name of department:

Humanities Education

Head of department:

Professor Johan Wassermann

Information about the Geographers and their area of specialisation in the department:

- Dr Clinton van der Merwe (Heritage Tourism; Geography Education; Pedagogy; Curriculum; and Assessment) – Senior Lecturer
- Dr Nthembe Mbewe (Geography Education; Pedagogy; Curriculum; and Assessment) - Lecturer

Exciting departmental news:

Dr van der Merwe – SSAG Gold Medallist

MSc and PhD graduations and supervisors:

PhD – Nthembe Mbewe (Dr Raita Steyn & Professor Johan Wassermann)

MEd – Sizwe Njapha (Dr Clinton van der Merwe & Dr Nthembe Mbewe)

2021 student numbers:

JMG200	277
JMG300	288
JMG451	217
JMG454	215
VGG 410	21
GEO730	2
MEd	2
PhD	6

Changes to the curriculum or course offerings:

Reconceptualised all modules since 2019; introduced Perspectives in Geography Education (a BEd Honours Module in Geography Education) in 2020.

Link to departmental webpage:

<https://www.up.ac.za/humanities-education>



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UNIVERSITY OF ZULULAND

Name of department:

Geography and Environmental Studies

Head of department:

Dr Nkanyiso Mbatha

Information about the Geographers and their area of specialisation in the department:

- Dr NB Mbatha; Atmospheric physics and chemistry, Earth remote sensing, applied climatology, Earth systems modelling, geospatial data science.
mbathanb@unizulu.ac.za 035 902 6400
- Dr I Moyo; Associate Professor- Political Geography Urban Geography Migration Studies Border Studies
Moyoi@unizulu.ac.za 035 9026340
- Dr ML Mdoka; Senior Lecturer- Atmospheric Science
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- Mr Mthembu, A.T; Lecturer- Demographics and Community Health; Cultural and Physical Environments
mthembua@unizulu.ac.za 035 9026329
- Mrs Ndimande, N.P; Lecturer- Rural Geography and Environmental Management
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- Mr N G Xulu; Lecturer- Environmental Management, Atmospheric Science and GIS
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- Miss Jabulile H Mzimela; n-Gap Lecturer- Environmental Management Human Geography
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- Prof Jury, M.R.; Research Fellow- Atmospheric Science
mark.jury@upr.edu

Support staff in the Department:

- Mrs Khumalo, D; Secretary
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- Mr L.C. Shongwe; Senior Laboratory Assistant - Human geography Remote sensing and GIS
ShongweL@unizulu.ac.za 035 902 6332



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Exciting departmental news:

Dr Nkanyiso Mbatha received NRF Rating Categories C2.

Dr I Moyo was promoted to Associate Professor.

2021/2022 List of publications

Authored Books

Moyo, I and Gumbo, T. 2021. Urban Informality in South Africa and Zimbabwe: On Growth, Trajectory and Aftermath. London: Springer

Edited Books

Moyo, I, Laine, J.P and Nshimbi, C.C. 2021 (Eds). Intra-Africa Migrations: Reimagining Borders and Migration Management. Routledge: London

Laine, J.P, **Moyo, I**, and Nshimbi, C.C.2021. Expanding Boundaries: Borders Mobilities and the Future of Europe-Africa Relations. Routledge.

Book chapters:

Moyo, I. 2021. Grassroots actors, border interactions and regional integration in the Southern African region and SADC. In, Nshimbi, C.C, Moyo, I and Laine, J.P, Borders, Sociocultural Encounters and Contestations: Southern African Experiences in Global View, 27-36. London: Routledge.

Moyo, I, Nshimbi, C.C and Laine, J.P. 2021. Implications of the micro processes of encounter contest in borders. In, Nshimbi, C.C, Moyo, I and Laine, J.P, Borders, Sociocultural Encounters and Contestations: Southern African Experiences in Global View, 141-145. London: Routledge.

Laine, J.P, Moyo, I and Nshimbi, C.C. 2021. Borders as sites of encounter and contestation. In, Nshimbi, C.C, Moyo, I and Laine, J.P, Borders, Sociocultural Encounters and Contestations: Southern African Experiences in Global View, 3-14. London: Routledge.

Nshimbi C.C and Moyo, I. 2021. Sociocultural encounters in geography historicized: Borders, grassroots actors and regional integration in Southern Africa. In, Nshimbi, C.C, Moyo, I and Laine, J. P, Borders, Sociocultural Encounters and Contestations: Southern African Experiences in Global View, 15-26. London: Routledge.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

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List of publications Continued:

Book chapters:

Laine, J.P, Moyo, I and Nshimbi, C.C.2021. Introduction: Migration and Border Politics Amidst the Europe-Africa Relations. In Laine, J.P, Moyo, I and Nshimbi, C.C (Eds), *Expanding Boundaries: Borders, Mobilities and the Future of Europe-Africa Relation*. London: Routledge.

Laine, J.P, Nshimbi, C.C and Moyo, I. 2021. Closing Remarks: Expanding the Boundaries of Euro-Africa Relations. In Laine, J.P, Moyo, I and Nshimbi, C.C (Eds), *Expanding Boundaries: Borders, Mobilities and the Future of Europe-Africa Relation*. London: Routledge.

Peer reviewed Journal articles

Xulu, Sifiso, Nkanyiso Mbatha, and Kabir Peerbhay. 2021. "Burned Area Mapping over the Southern Cape Forestry Region, South Africa Using Sentinel Data within GEE Cloud Platform" *ISPRS International Journal of Geo-Information* 10, no. 8: 511.

<https://doi.org/10.3390/ijgi10080511>

Mathivha, Fhumulani, and Nkanyiso Mbatha. 2022. "Comparison of Long-Term Changes in Non-Linear Aggregated Drought Index Calibrated by MERRA-2 and NDII Soil Moisture Proxies" *Water* 14, no. 1: 26.

<https://doi.org/10.3390/w14010026>

Aniche, Ernest Tooche, Inocent Moyo, and Christopher Changwe Nshimbi.

"Interrogating the nexus between irregular migration and insecurity along 'ungoverned' border spaces in West Africa." *African Security Review* (2021): 1-15.

Olaniyan, Richard, Olukayode A. Faleye, and Inocent Moyo, eds. *Transborder Pastoral Nomadism and Human Security in Africa: Focus on West Africa*. Taylor & Francis, 2021.

Tshimpaka, Leon Mwamba, Christopher Changwe Nshimbi, and Inocent Moyo. *Regional Economic Communities and Integration in Southern Africa: Networks of Civil Society Organizations and Alternative Regionalism*. Springer Nature, 2021.

Tshimpaka, L.M., Nshimbi, C.C. and Moyo, I., 2021. *Regional Economic Communities and Integration in Southern Africa: Networks of Civil Society Organizations and Alternative Regionalism*. Springer Nature.

Aniche, Ernest Tooche, Ikenna Mike Alumona, and Inocent Moyo. "Introduction: An overview of African regionalism, security, and development." *Regionalism, Security and Development in Africa* (2021): 1-9.

Aniche, Ernest Tooche, Ikenna Mike Alumona, and Inocent Moyo, eds. *Regionalism, Security and Development in Africa*. Routledge, 2021.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF ZULULAND

List of publications Continued:

Moyo, Inocent. "4 Migration and regional integration in Africa." *Regionalism, Security and Development in Africa* (2021).

Gumbo, Trynos, and Inocent Moyo. "On the temporal, spatial and structural linkages between informal and formal economic enterprises in Bulawayo, Zimbabwe." *GeoJournal* (2021): 1-13.

Moyo, Inocent, Jussi P. Laine, and Christopher Changwe Nshimbi. "Intra-Africa migrations: An introduction." In *Intra-Africa Migrations*, pp. 3-13. Routledge, 2021.

Makhathini, Mandisa Sunshine Melanie, Inocent Moyo, and Christopher Changwe Nshimbi. "Human mobility in the Southern African Development Community region: Some best practices for migration management from the European Union." In *Intra-Africa Migrations*, pp. 70-85. Routledge, 2021.

Moyo, Inocent, Christopher Changwe Nshimbi, and Jussi P. Laine. "Reimagining borders and migration management in Africa." In *Intra-Africa Migrations*, pp. 199-203. Routledge, 2021.

Moyo, Inocent, and Jussi P. Laine. "Precarity of borders and migration regimes in the Southern African region." In *Intra-Africa Migrations*, pp. 89-105. Routledge, 2021.

Moyo, Inocent, Jussi P. Laine, and Christopher Changwe Nshimbi, eds. *INTRAFRICA MIGRATIONS: Reimagining Borders and Migration Management*. Routledge, 2021.

Moyo, Inocent, and Hlengiwe Marvelous Sweetness Cele. "Protected areas and environmental conservation in KwaZulu-Natal, South Africa: on HEIs, livelihoods and sustainable development." *International Journal of Sustainability in Higher Education* (2021).

Moyo, Inocent, and Trynos Gumbo. *Urban Informality in South Africa and Zimbabwe: On Growth, Trajectory and Aftermath*. Springer Nature, 2021.

Thulare, Mpendulo Harold, and Inocent Moyo. "COVID-19 and street traders in the City of uMhlathuze, KwaZulu-Natal, South Africa: On responses and adaptation mechanisms." *Cogent Social Sciences* 7, no. 1 (2021): 2006392.

Tshimpaka, Leon Mwamba, Christopher Changwe Nshimbi, and Inocent Moyo. "Regional Integration in Africa and Southern Africa: An Appraisal of Conventional Approaches." In *Regional Economic Communities and Integration in Southern Africa*, pp. 47-75. Palgrave Macmillan, Singapore, 2021.

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List of publications Continued:

Thulare, Mpendulo Harold, Inocent Moyo, and Sifiso Xulu. "Systematic Review of Informal Urban Economies." *Sustainability* 13, no. 20 (2021): 11414.

Tshimpaka, Leon Mwamba, Christopher Changwe Nshimbi, and Inocent Moyo. "Towards a People-Centred Approach to Regionalism in Africa and Southern Africa." In *Regional Economic Communities and Integration in Southern Africa*, pp. 237-255. Palgrave Macmillan, Singapore, 2021.

Tshimpaka, Leon Mwamba, Christopher Changwe Nshimbi, and Inocent Moyo. "A Historical Background to Regional Integration in Africa and Southern Africa." In *Regional Economic Communities and Integration in Southern Africa*, pp. 33-46. Palgrave Macmillan, Singapore, 2021.

Tshimpaka, Leon Mwamba, Christopher Changwe Nshimbi, and Inocent Moyo. "Regional Integration, Networks of Civil Society Organisations and Alternative Regionalism in Southern Africa: An Introduction." In *Regional Economic Communities and Integration in Southern Africa*, pp. 1-31. Palgrave Macmillan, Singapore, 2021.

Tshimpaka, Leon Mwamba, Christopher Changwe Nshimbi, and Inocent Moyo. "Alternative and People Centred Approaches to Regional Integration." In *Regional Economic Communities and Integration in Southern Africa*, pp. 153-197. Palgrave Macmillan, Singapore, 2021.

Tshimpaka, Leon Mwamba, Christopher Changwe Nshimbi, and Inocent Moyo. "The Formal-Alternative Regionalism Formal Interface: Interactions and Engagements of Southern African Civil Society Networks in SADC Regulatory Regimes." In *Regional Economic Communities and Integration in Southern Africa*, pp. 115-151. Palgrave Macmillan, Singapore, 2021.

Tshimpaka, Leon Mwamba, Christopher Changwe Nshimbi, and Inocent Moyo. "New Institutionalism and New Regionalism Approaches to Understanding Regionalism in Southern Africa." In *Regional Economic Communities and Integration in Southern Africa*, pp. 77-113. Palgrave Macmillan, Singapore, 2021.

Tshimpaka, Leon Mwamba, Christopher Changwe Nshimbi, and Inocent Moyo. "Typology of Institutional Arrangements of Southern African Civil Society Networks." In *Regional Economic Communities and Integration in Southern Africa*, pp. 199-235. Palgrave Macmillan, Singapore, 2021.

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List of publications Continued:

Moyo, Inocent, and Sifiso Xulu. "Public knowledge, perceptions and practices in the high-risk lightning zone of South Africa." *International journal of environmental research and public health* 18, no. 14 (2021): 7448.

Moyo, Inocent, and Trynos Gumbo. "Rising Informality and Role in Shaping Economies in Johannesburg City." In *Urban Informality in South Africa and Zimbabwe*, pp. 83-95. Springer, Cham, 2021.

Moyo, Inocent, and Trynos Gumbo. "The Aftermath." In *Urban Informality in South Africa and Zimbabwe*, pp. 153-162. Springer, Cham, 2021.

Moyo, Inocent, and Trynos Gumbo. "The Spatial Configuration and Reconfiguration in Bulawayo City: Regarding the Impact of Politico-Economic Ideologies." In *Urban Informality in South Africa and Zimbabwe*, pp. 97-111. Springer, Cham, 2021.

Moyo, Inocent, and Trynos Gumbo. "Historicising Urban Economic Informality." In *Urban Informality in South Africa and Zimbabwe*, pp. 15-28. Springer, Cham, 2021.

Moyo, Inocent, and Trynos Gumbo. "Introduction on the Urban Economic Informality Context." In *Urban Informality in South Africa and Zimbabwe*, pp. 1-11. Springer, Cham, 2021.

Moyo, Inocent, and Trynos Gumbo. "Political Dimensions of Urban Informality in South African and Zimbabwean Cities." In *Urban Informality in South Africa and Zimbabwe*, pp. 135-150. Springer, Cham, 2021.

Moyo, Inocent, and Trynos Gumbo. "Modernity, Urban Planning and Informality." In *Urban Informality in South Africa and Zimbabwe*, pp. 29-38. Springer, Cham, 2021.

Moyo, Inocent, and Trynos Gumbo. "Spatial and Compositional Formality–Informality Interfaces in the City of Harare, Zimbabwe." In *Urban Informality in South Africa and Zimbabwe*, pp. 59-82. Springer, Cham, 2021.

Moyo, Inocent, and Trynos Gumbo. "Urban Informality Policies and Regulatory Frameworks in South African and Zimbabwean Cities." In *Urban Informality in South Africa and Zimbabwe*, pp. 123-133. Springer, Cham, 2021.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF ZULULAND

Moyo, Inocent, and Trynos Gumbo. "The Changing Shape of Economic Informality in Durban." In *Urban Informality in South Africa and Zimbabwe*, pp. 113-120. Springer, Cham, 2021.

Moyo, Inocent, and Trynos Gumbo. "International Migrants and Urban Economic Informality in South African Cities." In *Urban Informality in South Africa and Zimbabwe*, pp. 41-58. Springer, Cham, 2021.

Jury, Mark R. "Spreading of the semi-arid climate across South Africa." *Journal of Water and Climate Change* 12, no. 8 (2021): 3734-3749.

Alaminie, Addis A., and Mark R. Jury. "Investigating hydro-climates of the Upper Blue Nile River Basin." *Hydrological Sciences Journal* just-accepted (2021).

Jury, Mark R., and Didier Bernard. "Nocturnal Rainfall East of the Antilles Islands." *Atmosphere-Ocean* 59, no. 4-5 (2021): 201-213.

Mbhamali, Thulebona W., and Mark R. Jury. "Climate-sensitivity of sugarcane yield in the southeastern Africa lowlands." *International Journal of Climatology* (2021).

Chikoore, Hector, and Mark R. Jury. "South African drought, deconstructed." *Weather and Climate Extremes* (2021): 100334.

Jury, Mark R. "Monitoring and Forecasting Kenya's Fluctuating Hydroclimate." *Bulletin of the American Meteorological Society* 102, no. 5 (2021): E1080-E1098.

Jury, Mark R., and Angelie T. Nieves Jiménez. "Tropical Atlantic dust and the zonal circulation." *Theoretical and Applied Climatology* 143, no. 3 (2021): 901-913.

Alaminie, Addis A., Seifu A. Tilahun, Solomon A. Legesse, Fasikaw A. Zimale, Gashaw Bimrew Tarkegn, and Mark R. Jury. "Evaluation of Past and Future Climate Trends under CMIP6 Scenarios for the UBNB (Abay), Ethiopia." *Water* 13, no. 15 (2021): 2110.

Jury, Mark R., and América R. Gaviria Pabón. "Dispersion of smoke plumes over South America." *Earth Interactions* 25, no. 1 (2021): 1-14.

Munyai, Rendani B., Hector Chikoore, Agnes Musyoki, James Chakwizira, Tshimbiluni P. Muofhe, Nkosinathi G. Xulu, and Tshilidzi C. Manyanya. 2021. "Vulnerability and Adaptation to Flood Hazards in Rural Settlements of Limpopo Province, South Africa" *Water* 13, no. 24: 3490. <https://doi.org/10.3390/w13243490>

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Conference Presentation:

Dr Nkanyiso Mbatha attended and presented a paper at the South African Society for Atmospheric Science (SASAS) on line conference that took place on the 8-9 of November 2021. The title of the paper presentment is "Time Series Analysis and Forecasting of Temporal Trends of Atmospheric Mercury in Svalbard, Mace Head and Cape Point: A Machine Learning Approach"

Mr Thembinkosi Mthembu attended and presented at the Society of South African Geographers online conference. The details about the conference and the paper presented is as follows: *Mthembu, A.T., and Moyo, I. 2021. Mobility of people pursuing traditional health care services in UMkhanyakude District Municipality, Paper presented at the SSAG-SAAG Joint Biennial Conference, Rhodes University, Online, (6-8 September 2021).*

Mr Nkosinathi Xulu chaired a session in the Society of South African Geographers online conference (6-8 September 2021).

Jury, Mark R. "Monitoring and Forecasting Kenya's Fluctuating Hydroclimate." *Bulletin of the American Meteorological Society* 102, no. 5 (2021): E1080-E1098.

Jury, Mark R., and Angelie T. Nieves Jiménez. "Tropical Atlantic dust and the zonal circulation." *Theoretical and Applied Climatology* 143, no. 3 (2021): 901-913.

Alaminie, Addis A., Seifu A. Tilahun, Solomon A. Legesse, Fasikaw A. Zimale, Gashaw Bimrew Tarkegn, and Mark R. Jury. "Evaluation of Past and Future Climate Trends under CMIP6 Scenarios for the UBNB (Abay), Ethiopia." *Water* 13, no. 15 (2021): 2110.

Jury, Mark R., and América R. Gaviria Pabón. "Dispersion of smoke plumes over South America." *Earth Interactions* 25, no. 1 (2021): 1-14.

Munyai, Rendani B., Hector Chikoore, Agnes Musyoki, James Chakwizira, Tshimbiluni P. Muofhe, Nkosinathi G. Xulu, and Tshildizi C. Manyanya. 2021. "Vulnerability and Adaptation to Flood Hazards in Rural Settlements of Limpopo Province, South Africa" *Water* 13, no. 24: 3490.
<https://doi.org/10.3390/w13243490>

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M Sc and PhD graduations and supervisors Continued:

Mzimela Nokubonga Zuziwe; Assessing the contribution of informal cross-border trade to regional integration in the Southern African Development Community using Social Networking Analysis (SNA) - Master Dissertation- *Supervisor* Dr I Moyo

Langa Nkazimulo; Assessing the socio-economic development impact of informal cross border trade on the South African-Mozambique borderland at Kosibay - Master Dissertation- *Supervisor* Dr I Moyo

Nene Lindokuhle Siyabonga; Assessing the Impact of large scale commercial farming on the livelihoods of farmworkers in King Cetshwayo District Municipality, KwaZulu Natal, Province, South Africa - Master Dissertation- *Supervisor* Dr I Moyo

Chihambakwe

Fidelis; An assessment of urban densification as a sustainable solution to conserving green spaces in selected areas in eThekweni Municipality, KwaZulu-Natal. – PhD Thesis 2018-2019 - *Supervisor* Dr I Moyo

S hort description of the curriculum presented:

Undergraduate (NQF levels 5, 6 and 7):

Geography 1 (4GES100)

- Earth Science
- Atmospheric Science
- Environmental Management
- Cultural Environment
- Tourism

Geography 2 (4GES200)

- Global Landforms
- Cartography and Thematic Mapping
- Demographics and Community Health
- Sustainable Development
- Hydrometeorology

Geography 3 (4GES300)

- Urban Geography
- Recreation Geography
- Land Use and Resource Management
- Environmental Management
- Environmental Fieldwork and Research
- Atmospheric processes and pollution
- Climate dynamics, weather variability and prediction

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*Description of the curriculum presented
continued:*

Postgraduate (NQF level 8):

- Bachelor of Arts (Honours) – BA Hons
- Bachelor of Science (Honours) – BSc Hons

Postgraduate (NQF level 9):

- Master of Arts – MA
- Master of Science – MSc

Postgraduate (NQF level 10):

- Doctor of Philosophy in Geography – PhD

L*ink to departmental webpage:*

<http://www.science.unizulu.ac.za/geography/>

2021 student numbers :

<i>First Year</i>	471
<i>Second Year</i>	253
<i>Third Year</i>	147
<i>Honours</i>	13
<i>Masters</i>	7
<i>Doctoral</i>	3

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Name of department:

Geography and Environmental Studies & Tourism

Head of department:

Associate Professor Bradley Rink (from 2022)

Information about the Geographers and their area of specialisation in the department:

- **Prof Bradley Rink**, Associate Professor (Department Chairperson 2022-2024)

Bradley is a human geographer, focusing his research and teaching on mobilities, urban place-making, identities, and tourism. His research foregrounds mundane and subaltern mobilities to make them visible in the everyday movements and circulations of African cities. Through his research, teaching and community engagement, he aims to better understand mobilities and the relationships they articulate between urban dwellers and the cities in which they live.

- **Prof Shirley Brooks**, Associate Professor
- Shirley is a human geographer focusing on human-environment relationships, in particular postcolonial landscapes of conservation and land in Southern Africa. She teaches in the fields of nature-society relations and the political geography of land.

In addition to working within a political ecology framework, she is interested in the quintessentially geographical theme of landscape meanings and contestations. Together with her students, she has explored Human and Non-human Geographies, focusing on Wilderness and Wildness as well as Animal Geographies.

- **Dr Mbulisi Sibanda**, Senior Lecturer
- Mbulisi is a Senior Lecturer specialising in GIScience and Earth Observation Data Applications. He is a rated researcher by SA National Research Foundation with research interests in GIScience and Geospatial Data Applications in monitoring plant water use and productivity analysis, resource modelling as well as land-use change. His recent research projects as the research leader and a researcher are in the application of GIScience and Geospatial Data in Water Utilisation for Poverty Reduction and Wealth Creation in Agriculture. These projects are based on his recent research interest in the application of drone technologies in monitoring smallholder croplands. He teaches mostly physical and quantitative techniques in Geography.



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Geographers continued:

- **Dr Mark Boekstein**, Senior Lecturer and Research Fellow

Mark's main interest in both teaching and research is tourism, particularly tourism's potential to contribute to economic development. While his teaching focuses on the planning, development, and marketing of sustainable, community-based tourism, his research interests include health and wellness tourism and the use of thermal springs for healing purposes, and English language learning as a tourist attraction. He also has an interest in developments around Cape Town as a gateway for tourism to Antarctica and the sub-Antarctic islands.

- **Mrs Mandy Carolissen**, Lecturer
Mandy is a physical geographer with teaching and research interests in integrated water resource management, catchment hydrology, ecosystem services, and the dynamic physical processes that shape our landscapes. Her current research focuses on understanding the spatial and temporal availability of water and storage of a depression wetland (using in-situ hydrological data and remote sensing), and to relate these to ecosystem services.

Mr Michael Dyssel, Lecturer

Michael's research and teaching interests include conservation and environmental management, urban-ecological challenges, the impacts of tourism, and mapwork. As a way of bridging (sub) disciplinary boundaries in Geography, transdisciplinary and multi-methods research and teaching approaches underpin his work.

- **Mr Tinashe P. Kanosvamhira** (**Associate Lecturer**)

Tinashe is an urban geographer in the department. His research interests are drawn from a broad range of socio-spatial issues including, urban governance, livelihood strategies of the urban poor, urban food security, urban food systems, and neoliberal urbanism. His current research focuses on political gardening within the context of neoliberal urbanism in global South cities. He has previously served as a Teaching Assistant and Part-time Lecturer in the department.

- **Mr David Frenchman**, Senior Officer
David is the IT administrator in the Department and part of the Academic Support Staff in the Faculty. His work relates primarily to managing both undergraduate and postgraduate computer laboratories. However, he also offers GIS support to staff and students. He is solely responsible for the installation and maintenance of GIS software in the laboratories. GIS support involves compiling and issuing datasets for research and publications.

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Geographers continued:

• **Mr Logan Platjies**, Administrative Officer

• Logan was appointed as Administrator in the Department in 2020, having worked in the Recruitment Office, Afrikaans Dept, isiXhosa Dept and now at the Geography, Environmental and Tourism Studies Dept at UWC since 2015. Previously, he worked at UNISA and in the private sector at Shell Oil, but it is the academic environment that he has become attached to. His hobbies include reading and having endless conversations about the human being, following his interest in Psychology which is relentless.

• **Prof Daniel Tevera**, Extraordinary Professor

Daniel's research is located at the interface of Human Geography and Development Studies with Southern Africa as the geographical focus. His early work focused on livelihoods and spatial strategies in the informal economy, migration geographies, and environmental security. However, it is the domain of food and the city that his recent work focuses on. He has served as an expert participant in policy debates around Temporary Labour Migration Schemes in small countries (Commonwealth), African migration (United Nations Economic Commission for Africa), and Migration Policy Framework for Africa (African Union). For three successive years, Daniel organised field trips for third-year and honours students to the hotly contested Philippi Horticultural Area (PHA).

• **Prof Jonathan Crush**, Extraordinary Professor

More details on Jonathan and his research can be found here:

<https://www.balsillieschool.ca/jonathan-crush/>

• **Dr Erin Torkelson**, Postdoctoral Fellow
Erin is a human geographer interested in the collision between normative assumptions about cash transfers as public goods and the lived experience of cash transfers as private debts in the Global South. Her work sits at the intersection of political economy, development studies, critical race theory, feminist kinship studies, and postcolonial science and technology studies. Her current project, Bantustan Banking, explores how a preeminent, state-sponsored cash transfer programme has become a means of racialised and gendered dispossession in post-apartheid South Africa. She examines the everyday practices by which poor, black South African women navigate their entitlements to social assistance against the pressures of expropriation built into the payment system.

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Exciting departmental news:

Launch of MiFood Project: In 2021 Professors Daniel Tevera and Bradley Rink along with Extraordinary Professor Jonathan Crush (principal investigator) launched the South-South Migration and Migrant Food Insecurity: Interactions, Impacts and Remedies (MiFood Project) that focuses on migration and food security. The project is funded by Canada's Social Sciences and Humanities Research Council (SSHRC) through a grant worth Can\$2.5 million. MiFood builds on the strong foundation laid by the network and of partner institutions, co-investigators, and collaborators from seven Canadian universities together with teams from partners in China, Jamaica, Kenya, Mexico, Namibia, Mozambique, Ecuador, Ghana, India, Qatar, South Africa, and Singapore. This project aims to design and implement a new global research and knowledge mobilisation agenda on the interactions between international and internal South-South migration and food security; compare the food security vulnerabilities of migrant women, men, and children in different cities, migration corridors and migrant-sending communities across the Global South; examine how the transformation of food systems is generating new forms of migration, precarious migrant employment and food insecurity; and ensure that the neglected migration and food security nexus becomes a major focus of attention on global, national and local development agendas.

Migration and Mobilities Interdisciplinary Collective in Africa (MMICA): Also in 2021, Professors Daniel Tevera and Bradley Rink were founding members MMICA, an [Apex Project](#) in the Office of the DVC: Academic and coordinated by Dr Leah Koskimaki. MICA is a collaboration across five faculties and aims to further understand the practices, meanings and impacts of migration and mobilities in the African and global context.

SSAG Best Paper Award (Human geography category) - Musfiqah Majiet: Ms Majiet received a Best paper award in the Masters category (Human geography) at the 2021 SSAG student conference with a paper entitled 'Revisiting the geographies of fear on the Cape Flats: Gated exclaves and enclaves.' Her study examined gated communities in lower income areas on the Cape Flats and questioned whether (or not) these gated communities address real and perceived fears of residents

Professor Daniel Tevera presented a keynote address (via zoom) at the international workshop on Transforming cities and urban agriculture in Africa. The workshop was held on 14 May 2021 at the Balsillie School of International Affairs in Canada.

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Departmental news continued:

Professor Bradley Rink has been nominated to join the Teaching Advancement at Universities (TAU) Fellowship programme as part of their TAU4 cohort. The TAU Fellowships Programme seeks to build a cadre of teaching fellows in a wide range of disciplines over a 19-month programme, involving block week contact sessions, individual projects in their own teaching and learning settings, group projects and reflective reports; participants are drawn from all South African universities.

2020/2021 List of publications:

Onyango, Elizabeth Opiyo, Crush, Jonathan, and Owuor, Samuel. (2021). Migration, Rural–Urban Connectivity, and Food Remittances in Kenya. *Environments*, 8(9), 92.

<https://doi.org/10.3390/environments8090092>

Quesada, L.L. and Boekstein, M. (2021). Reflecting on the Effects of Disruptive Innovation in South Africa's Accommodation Subsector: A Focus on Emerging Black-Owned Businesses. *African Journal of Hospitality, Tourism and Leisure*, 10(6):1959-1972. DOI:

<https://doi.org/10.46222/ajhtl.19770720.203>

Rink, Bradley. (In Press). Capturing amaphela: Negotiating township politics through shared mobility. *Geoforum*, <https://doi.org/10.1016/j.geoforum.2020.06.010>.

Rink, Bradley and Crow, Justin. (2021). Horse/power: human–animal mobile assemblage in the contemporary city. *Contemporary Social Science*, 16(1): 84-95. <https://doi.org/10.1080/21582041.2019.1655164>

Rink, Bradley and Grobler, Lisa. (2021) Connection, Place, Transit: Airport Atmospherics and Meaning-Making at Cape Town International Airport. In: Rogerson C.M., Rogerson J.M. (Eds.), *Urban Tourism in the Global South* (pp. 113-128). Cham: Springer Nature. https://doi.org/10.1007/978-3-030-71547-2_5

Rink, Bradley and Klaas, Lwando. (2021) Flying, health and the city: sensing aeromobility and risk in an informal settlement. *Cities & Health*, 5(1-2): 198-209. <https://doi.org/10.1080/23748834.2019.1598925>

Kanosvamhira, Tinashe and Tevera, Daniel. (2021). Food resilience and urban gardener networks in Sub-Saharan Africa: What can we learn from the experience of the Cape Flats in Cape Town, South Africa?, *Journal of African and Asian Studies*, <https://doi.org/10.1177/00219096211043919>.

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2021/2022 List of publications:

Ntombini Marrengane, Ntombini, Sawyer, Leslie, and Tevera, Daniel. (2021). Traditional Authorities in African Cities: Setting the Scene, *African Studies*, 80(2): 125-133. <https://doi.org/10.1080/00020184.2021.1940098>

Tavera, Daniel, and Raimundo, Inês. (2021). Cyclone Idai disaster landscapes, impact on food systems and emergency responses. In: Nhamo, G. and Chikodzi, D. (Eds.) *Floods in Southern Africa* (New York: Springer), pp. 131-142. https://doi.org/10.1007/978-3-030-74303-1_9

Tavera, Daniel, Sibanda, Melusi, Mamba, Felix and Tivana, Lucas. (2021). Assessment of Cyclone Idai Floods on Local Food Systems and Disaster Management Responses in Mozambique and Zimbabwe. In: Godwell Nhamo et al (Eds.) *Floods in Southern Africa* (New York: Springer), pp. 59-68. https://doi.org/10.1007/978-3-030-74303-1_4

Torkelson, Erin. (2021). Sophia's choice: Debt, social welfare, and racial finance capitalism. *Environment and Planning D: Society and Space*, 39(1): 67-84. <https://doi.org/10.1177/0263775820973680>

Zhang, Yu, Yang, Kui, Hou, Song, Zhong, Taiyang and Crush, Jonathan. (2021). Factors determining household-level food insecurity during COVID-19 epidemic: a case of Wuhan, China. *Food & Nutrition Research*, Mar 8; 65. <https://doi.org/10.29219/fnr.v65.5501>

MA and PhD graduations and supervisors:

Master of Arts, Geography & Environmental Studies:

Goeiman, Johnathan. The Bakkie Brigade in Cape Town's urban waste economy: exploring waste mobilities and the precariat, Supervisor: Bradley Rink.

Kimani, Alexander. GIS mapping of community perceptions of illegal waste dumping in Mbekweni, Paarl. Supervisors: Michael Dyssel and Catherina Schenck.

Sampson, Shae-Lynn. Response of wetlands to impacts from agricultural land use practices: Implications for conservation, management, and rehabilitation in the Nuwejaars Catchment, Western Cape. Supervisors: [Mandy Carolissen](#) and Nancy Job.

Sefela, Farren. Biting the hand that feeds you: Visitor perceptions of visitor-baboon interaction in the Cape Peninsula. Supervisor: Mark Boekstein

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2021 student numbers

Undergraduate:	394 students
Honours:	21 students
Masters:	10 students
PhD:	5 students

Link to departmental webpage

<https://www.uwc.ac.za/study/all-areas-of-study/departments/department-of-geography-environmental-studies-and-tourism/overview>

Changes to the curriculum or course offerings:

In 2022 the Department will offer a new module (GES330) *Introduction to the Principles of Remote Sensing* coordinated and taught by Dr Mbulisi Sibanda.

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UNIVERSITY OF THE FREE STATE

Name of department:

Geography

Head of department:

Prof Samuel Adelabu

Information about the Geographers and their area of specialisation in the department:

- **Prof Samuel Adelabu** (Professor) – Remote sensing and GIS applications to vegetation, urban development, water analysis, land use and land cover changes, ecological assessment, climate change, disaster risk analysis, agricultural production, semi-arid and mountain environments etc.
- **Prof Geoffrey Mukwada** (Professor) – Climate change and mountain environments, rural livelihoods as well as natural resource management and conservation.
- **Dr Mischka Dunn** (Lecturer) – Land use management, planning education and spatial planning.
- **Dr Melissa Hansen** (Lecturer) – Political ecology, environmental politics, conservation, spatial development, development studies, sustainability science, society and environment and environmental governance
- **Dr Jay le Roux** (Senior Lecturer) – Land degradation assessment, mapping and monitoring, specifically in spatial modelling of soil erosion risk. Sediment transport and hydrological connectivity, using hydrological models, such as soil and water assessment tool, GIS and remote sensing techniques from catchment to national scale.
- **Dr Pululu Mahasa** (Lecturer) – Water demand management, medical waste management and aeolian geomorphology.
- **Dr Rajab Matamanda** (Lecturer) – Climate change adaptation and planning, environmental planning, applied systems analysis, human settlements planning and management.
- **Dr Elizabeth Rudolph** (Lecturer) – Process geomorphology and fieldwork techniques in data collection. Geomorphological mapping and landscape analysis. Dating techniques in earth surfaces processes and denudation rates (e.g. cosmogenic nuclide exposure). Glacial and peri-glacial geomorphology in particular sub-Antarctic Antarctic and high mountain environments. Education and communication in Geography, including the use of Virtual Reality tec.

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Geographers

continued:

- **Dr Mbali Pewa** (Lecturer) – Gender and development as well as waste management in deprived areas
- **Dr Adriaan van der Walt** (Senior Lecturer) Biometeorology and climatology, specifically the influence and impact of climate variability on the humand and animal population, as well as extreme temperature event impacts and drivers thereof. Geographic information systems, including the mapping and geospatial application on climate variability and influences therof.
- **Dr Sifiso Xulu (Lecturer)** – Geospatial application on climate variability and its influence on natural resources, restoration ecology and land-use change.
- **Ms Eldalize Kruger** (Lecturer) Environmental management and monitoring, environmental awareness and education.
- **Mrs Tobeka Mehlomakhulu** (Lecturer) – Township development studies, land issues and sustainable rural livelihoods.
- **Ms Ntebohiseng Sekhele** (Lecturer) – Climate change, montane rural communities and conservation conflicts.
- **Mrs Marike Stander** (Lecturer) – Heavy metal contamination of sediments, sediment provenance studies and environmental management and monitoring

Exciting

departmental

news:

Prof Samuel Adelabu has been invited as a visiting professor/scholar to the Department of Land Air and Water Resources at the University of California, Davies Campus. He will be visiting from April until May 2022.

Dr Abraham Matamanda received a Y2 NRF rating in 2021, effective as of 2022.

Dr Mischka Dunn obtained her Ph.D. at the University of the Free State, entitled: “*The experience of Urban Planners’ practical training in South Africa*”. The thesis developed a conceptual framework for the exploration of the experiences of Urban Planners’ practical training.

Dr Elizabeth Rudolph was awarded first prize for the ‘Best Paper Award’ competition during the SSAG-SAAG 2021 biannual conference, and initiative by the SSAG Student and Young Professionals group, the Southern African Young Geomorphologists and the ‘International Geographical Union

⁹⁴ Young and Early Career Geographers’ Taskforce.

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Departmental news continued:

Dr Rudolph and Mrs Marike Stander were elected as council members for the Southern African Association of Geomorphologists (SAAG) for the term 2021-2023. Dr Rudolph was voted in as the new President-elect of the Southern African Association of Geomorphologists, to serve as President between 2024-2026.

Dr Adriaan van der Walt was promoted in 2021 to Senior Lecturer to start in 2022. In addition, he was appointed as a member of the Editorial Board of the Springer International Journal of Biometeorology (IJBM; 2021-2023). He is also one of the Afromontane Research Unit research champions and on the Steering Committee of the ACCESS Global Climate Emerging Research Network (GCERN).

Two new staff members were appointed in 2021 to start in 2022. Mr Katlego Mashiane was appointed as Technician on the Bloemfontein Campus, whilst Mr Solomon Zondo was appointed as Lecturer on the Qwaqwa Campus.

Dr Xulu's two students, Ms Boitumelo Chakana (Masters) and Ms Nosipho Ndima (Honours) received the South African National Space Agency (SANSA) Bursary Awards for 2021/2022. In addition, one of his honours students, Ms Fallon Kemp submitted the paper from her honours project for publication

2020/2021 List of publications:

Research Articles

Single author:

Matamanda RA. 2021. Mugabe's urban legacy: A postcolonial perspective on Urban Development in Harare, Zimbabwe. *Journal of Asian And African Studies*, 56 (4), pp. 804 - 817.

Two authors:

Moyo I, **Xulu S.** 2021. Public knowledge, perceptions and practices in the high-risk lightning zone of South Africa. *International Journal of Environmental Research and Public Health*. 18, 7448.

Van Der Walt AJ, Fitchett J. 2021. Trend analysis of cold extremes in South Africa: 1960-2016. *International Journal of Climatology*, 41 (3), pp. 2060 - 2081.

Van Der Walt AJ, Fitchett J. 2021. Extreme Temperature Events (ETEs) in South Africa: a review. *South African Geographical Journal*, 2021 pp. 1 - 20.

Van Der Walt AJ, Fitchett J. 2021. Exploring extreme warm temperature trends in South Africa: 1960-2016. *Theoretical and Applied Climatology*, 143 pp. 1341 - 1360.

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Publications continued :

Adedeji O, Olusola AO, Babamaaji R, **Adelabu SA**. 2021. An assessment of flood event along Lower Niger using Sentinel-1 imagery. *Environmental Monitoring and Assessment*, 193 (12), pp. 1 - 17.

Adeyeye D, Olusola AO, Orimoloye IR, Singh S, **Adelabu SA**. 2021. Carbon footprint assessment and mitigation scenarios: a benchmark model for GHG indicator in a Nigerian University. *Environment, Development and Sustainability*, 0 pp. 1 - 22

Anderson RL, Rowntree K, Le Roux JJ. 2021. An interrogation of research on the influence of rainfall on gully erosion. *CATENA*, 206 pp. 105482-1 - 105482-9. Avedo J, Clark VR, Millar J, **Mukwada G**, Postigo J, Wurzinger M, Mathez-Stiefel S. 2021 Focus issue: Pastoralism and rangelands in mountains. *Mountain Research and Development*, 41 (4), pp 1-2

Clark VR, **Mukwada G**, Hansen MM, **Adelabu SA**, Magaiza G, Le Roux A, Bredenhand E, Voua Otomo P, Steenhuisen S, Franke AC, Van Tol JJ, Mathinya VN, Makombe R. 2021. The Afromontane research unit: driving connections and capacity building for the sustainable development of Southern African Mountains. *Mountain Research and Development*, 41 (2), pp. 1 - 5.

Daemane ME, Ramoelo A, **Adelabu SA**. 2021. The spatial distribution of the woodland communities and their associated environmental drivers in the Golden Gate Highlands National Park, South Africa. *KOEDOE*, 63 (1), pp. a1672:1 - a1672:9.

Ibrahim KO, Gomo M, Oke SA, **Matamanda RA**. 2021. Hand-dug wells in rural areas of developing countries. *Sustainable Water Resources Management*, 7(3), 1-7.

Mararakanye, N., **Le Roux, J.J.**, Franke, A.C. 2021. Long-term water quality assessments under changing land use in a large semi-arid catchment in South Africa. *Science of the Total Environment*. <https://doi.org/10.1016/j.scitotenv.2021.151670>.

Matamanda RA, Chirisa I, Kanonhuhwa T, Mhlanga D. 2021. Politics and the legacy of street renaming in postcolonial Zimbabwe. *Journal of Cultural Geography*, 38 (3), pp. 336 - 353.

Matamanda RA, Chirisa I, Rammile S. 2021. Elitist domination and its import: Survey of four decades of perpetuation of inequities in Zimbabwe. *Politikon*, 48 (3), pp. 450 - 467.

Matamanda RA, Chirisa I, Leboto L, **Dunn M**, Kwangwama A. 2021. The planning profession questioned: Evidence from the role and practice of planners in Zimbabwe. *Journal of Planning Education And Research*, 0 pp. 1 - 7.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF THE FREE STATE

Publications continued :

Mashingaidze N, Chirisa I, Mutambisi T, **Matamanda RA**. 2021. Paradoxes surrounding carbon credits and local area development: the case of Mbire district, Zimbabwe. *Local Environment*, 26 (10), pp. 1175 - 1185.

Mazibuko, S.M., **Mukwada, G.** and Moeletsi, M.E., 2021. Assessing the frequency of drought/flood severity in the Luvuvhu River catchment, Limpopo Province, South Africa. *Water SA*, 47(2): 172-184. 10.17159/wsa/2021.v47.i2.10913

Mofokeng DO, **Adelabu SA**. 2021. Modeling and assessing temporal distribution of anthropogenic factors in a protected area for fire danger assessment. *Journal of Geography and Natural Disasters*, 11 (8), pp. 1 - 6.

Mukwada, G., Mazibuko, S.M., Moeletsi, M. and Robinson, G.M., 2021. Can Famine Be Averted? A Spatiotemporal Assessment of the Impact of Climate Change on Food Security in the Luvuvhu River Catchment of South Africa. *Land*, 10(5): 527-544.
<https://doi.org/10.3390/land10050527>

Nel W, Boelhouwers J, Borg C, Cotrina J, Hansen C, Haussmann N, Hedding D, Meiklejohn K, Nguna A, **Rudolph EM**, Sinuka S, Sumner P. 2021. Earth science research on Marion Island (1996-2020): a synthesis and new findings. *South African Geographical Journal*, 103 (1), pp. 22 - 42.

Nuwarinda H, Ramoelo A, **Adelabu SA**. 2021. Assessing natural resource change in Vhembe biosphere and surroundings. *Environmental Monitoring and Assessment*, 193 pp. 404:1 - 404:16.

Onafeso O, Onafeso T, Olumuyiwa-Oluwabyi G, Faniyi M, Olusola AO, Dina A, Hassan A, Folorunso S, **Adelabu SA**, Adagbasa EG. 2021. Geographical trend analysis of COVID-19 pandemic onset in Africa. *Social Sciences and Humanities Open*, 4 (1), pp. 100137:1 - 100137:13.

Orimoloye IR, Olusola AO, Ololade OO, **Adelabu SA**. 2021. A persistent fact: reflections on drought severity evaluation over Nigerian Sahel using MOD13Q1. *Arabian Journal of Geosciences*, 14 pp. 1 - 18.

Pretorius A, **Kruger E**, Bezuidenhout S. 2021. Google trends and water conservation awareness: the Internet's contribution in South Africa. *South African Geographical Journal*, 2021 pp. 1 - 17.

Rudolph EM, Hedding D, Nel W. 2021. The surface geology of the Prince Edward Islands: refined spatial data and call for geoconservation. *South African Journal of Geology*, 124 (3), pp. 627 - 638.

Rudolph EM, Hedding D, Nel W. 2021. The glacial geomorphology of sub-Antarctic Marion Island. *Journal of Maps*, 17 (2), pp. 313 - 324.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF THE FREE STATE

Publications continued :

Stander MH, Le Roux JJ, Abd Elbasit M, Liu G. 2021. A review of sediment fingerprinting for erosion hotspot assessment in southern Africa. *South African Geographical Journal*, 103 (1), pp. 82 – 98

Sumner P, Rughooputh S, Boojhawon R, Dhurmea K, Hedding D, **Le Roux JJ**, Pasnin O, Tatayah V, Zaynab A, Nel W 2021. Erosion studies on Mauritius: overview and research opportunities. *South African Geographical Journal*, 103 (1), pp. 65 - 81.

MSc and PhD graduations and supervisors:

MSc

Semela M - MSc in Environmental Geography

Nxumalo P - MSc in Environmental Geography

Nkuna BL - MSc in Geography

Chamane L - MSc Geography

Doctoral

Nyama Vellim

Thesis: An Assessment of citizen participation in local development: The case of Murewa District in Zimbabwe
Promoter: Prof G Mukwada

2021 student numbers:

<i>First Year</i>	25
<i>Second Year</i>	21
<i>Third Year</i>	56
<i>Honours</i>	18
<i>Masters</i>	21
<i>Doctoral</i>	17

Link to departmental webpage:

www.ufs.ac.za/geography

SSAG NEWS 2021/22

SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF FORT HARE

Name of department:

Geography and Environmental Studies

Head of department:

Prof PD Sumner

Information about the Geographers and their area of specialisation in the department:

•Dr A M Kalumba: Environmental Sciences - Environmental Sustainability, Urban Studies, Climate change and GIS-Remote Sensing

•Dr H B Magagula: Physical Geography – Geomorphology, Environmental Studies & Pedology.

•Dr S P Mazinyo: Environmental Studies: Corporate & Urban Sustainability, Food Security & Climate Change

•Ms Z A F Mzitshi: Human Geography – Feminist Geography & Rural Development

•Dr R Pillay: Human Geography, Environmental Studies and Cartography

• Ms S Serame: Human Geography, Remote Sensing, Rural Sustainability and Youth Welfare

• Professor PD Sumner: Physical Geography (geomorphology) and Environmental Studies

• Professor W Nel: Physical Geography, Climatology & Geomorphology

• Mrs K Xoxo: Human Geography, Climate Change & Remote Sensing

Exciting departmental news:

Dr Kalumba received the University of Fort Hare 2021 Vice Chancellor's Research Excellence Award: Emerging Researcher Institutional Winner, and Prof Nel received a C1 NRF Rating.



University of Fort Hare
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SSAG NEWS 2021/22

SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF FORT HARE

2020/2021 List of publications:

Afuye, G.A., Kalumba, A.M., Busayo, E.T., and Orimoloye, I.R. (2021). A bibliometric review of vegetation response to climate change. *Environmental Science Pollution Research*. <https://doi.org/10.1007/s11356-021-16319-7>

Afuye, G.A., Kalumba, A.M., and Orimoloye, I.R. (2021). Characterisation of Vegetation Response to Climate Change: A Review. *Sustainability*, 13, 7265. <https://doi.org/10.3390/su13137265>

Busayo, E.T., Kalumba, A.M., Afuye, G.A., Olusola, A.O., Ololade, O.O. and Orimoloye, I.R. (2022). Rediscovering South Africa: flood disaster risk management through ecosystem-based adaptation. *Environmental and Sustainability Indicators* 14, 100175 <https://doi.org/10.1016/j.indic.2022.100175>

Dyosi, M., Kalumba, A.M., Magagula, H. Orimoloye, I.R. (2021). Drought conditions appraisal using geoinformatics and multi-influencing factors. *Environmental Monitoring and Assessment*, 193, 365. <https://doi.org/10.1007/s10661-021-09126-7>

Ekundayo, O.Y., Abiodun, B.J., and Kalumba, A.M. (2022). Global quantitative and qualitative assessment of drought research from 1861 to 2019. *International Journal of Disaster Risk Reduction*, 70, 102770

Ekundayo, O.Y., Okogbue, E.C., Akinluyi, F.O., Kalumba, A.M., Orimoloye, I. R. (2021) Geoinformatics Approach to Desertification Evaluation: Using Vegetation Cover Changes in the Sudano-Sahelian Region of Nigeria from 2000 to 2010. Book Chapter in: *Re-envisioning Remote Sensing Applications*. (1st Ed), Imprint CRC Press, eBook ISBN 9781003049210.

Mvovo, I. (2021) A comprehensive review on micro-plastic pollution in African aquatic systems. *Environmental Advances*, 5, 100107

Mvovo, I. and Magagula, H.B. (2021): Health risks of heavy metal contamination in road surface dusts from selected major roads in East London, South Africa, *International Journal of Environmental Health Research*, 29(1-10). DOI: 10.1080/09603123.2021.1969340

Masiza, W., Chirima, J.G., Hamandawana, H., Kalumba, A.M., and Magagula, H.B. (2021). Linking Agricultural Index Insurance with Factors That Influence Maize Yield in Rain-Fed Smallholder Farming Systems. *Sustainability*, 13, 5176. <https://doi.org/10.3390/su13095176>

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF FORT HARE

Publications Continued:

Masiza, W.; Chirima, J.G.; Hamandawana, H.; Kalumba, A.M.; Magagula, H.B. (2022). Do Satellite Data Correlate with In Situ Rainfall and Smallholder Crop Yields? Implications for Crop Insurance. *Sustainability*, 14, 1670. <https://doi.org/10.3390/su14031670>

Nduku L, Kalumba AM, Munghemezulu C, Mashaba-Munghemezulu Z, Chirima GJ, Afuye GA, and Busayo ET. (2021). Earth Observation Systems and Pasture Modeling: A Bibliometric Trend Analysis. *ISPRS International Journal of Geo-Information*, 10(11), 793. <https://doi.org/10.3390/ijgi10110793>

Nel, W., Boelhouwers, J.C., Borg, C.J., Cotrina, J., Hansen, C.D., Haussmann, N.S., Hedding, D.W., Meiklejohn, K.I., Nguna, A.A., Rudolph, E.M., Sinuka, S.S., Sumner, P.D. (2021). Earth science research on Marion Island (1996-2020): A synthesis and new findings. *South African Geographical Journal*, 103(1), 22-42.

Nsubuga, F.N.W., Mearns, K.F., Davis, N.C., Kalumba, A.M., and Komen, K. (2021). Exploring the influence of climate change and capital assets on livelihood formations in central region of Uganda. *Environment, Development and Sustainability*, 23 (57), 9223-9242. <https://doi.org/10.1007/s10668-020-01020-55>

Orimoloye, I.R., Ololade, O.O., Ekundayo, O.Y., Busayo, E.T., Afuye, AG., Kalumba, A.M., and Ekundayo, T.C. (2022). Assessment of global research trends in the application of data science and deep and machine learning to the COVID-19 pandemic. *Data Science for COVID-19. Volume 2: Societal and Medical Perspectives*, 531-546.

Orimoloye, I.R.; Zhou, L.; and Kalumba, A.M. (2021). Drought Disaster Risk Adaptation through Ecosystem Services-Based Solutions: Way Forward for South Africa. *Sustainability*. 13, 4132. <https://doi.org/10.3390/su13084132>

Owolabi, S.T., Madi, K., Kalumba, A.M., and Baiyegunhi, C. (2021). A geomagnetic analysis for lineament detection and lithologic characterization impacting groundwater prospecting; a case study of Buffalo catchment, Eastern Cape, South Africa. *Groundwater for Sustainable Development*, 1, 100531. <https://doi.org/10.1016/j.gsd.2020.100531>.

Rudolph, E.M., Hedding, D.W. and Nel, W. (2021) The surface geology of the Prince Edward Islands: refined spatial data and call for geoconservation. *South African Journal of Geology*, 124(3), 627-638 [doi:10.25131/sajg.124.0014](https://doi.org/10.25131/sajg.124.0014)

Rudolph, E.M., Hedding, D.W. and Nel, W. (2021). The glacial geomorphology of sub-Antarctic Marion Island, *Journal of Maps*, 17(2), 313-324. DOI:10.1080/17445647.2021.1931970

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF FORT HARE

Publications Continued:

Sumner, P.D., Rughooputh, S.D.D.V., Boojhawon, R., Dhurmea, K., Hedding, D.W., le Roux, J.J., Pasnin, O., Tatayah, V., Zaynab, A. and Nel, W. (2021). Erosion studies on Mauritius: overview and research opportunities. *South African Geographical Journal*, 103(1), 65-81.

Sumner, P.D. and Nel, W. (2021). Commemorating three decades of the Southern African Association of Geomorphologists *South African Geographical Journal*, 103(1), 1-6.

Tolulope Olatoye, Ahmed Kalumba, Sonwabo Perez Mazinyo, Akinwunmi Sunday Odeyemi, Impact of Urban Expansion on Coastal Vegetation Conservation in Buffalo City Metropolitan Municipality, South Africa, *International Journal of Social Ecology and Sustainable Development*, vol. 2021, Article ID 8823826. <https://doi.org/10.1155/2021/8823826>

Wu, W., Qu, S., Nel, W. and Ji J. (2021) The influence of natural weathering on the behavior of heavy metals in small basaltic watersheds: a comparative study from different regions in China. *Chemosphere*, 262, 127897

Wu, W., Qu, S., Nel, W. and Ji J. (2022) Tracing and quantifying the sources of heavy metals in the upper and middle reaches of the Pearl River Basin: New insights from Sr-Nd-Pb multi-isotopic systems. *Chemosphere*, 288, 132630

MSc and PhD graduations and supervisors

Busayo, ET.: Coastal urban climate change adaptation and disaster risk reduction assessment: the case of East London City, South Africa. PhD Geography – Supervisor Dr AM Kalumba.

Dyosi, M: Assessing Drought Conditions using NDVI, Land Surface Temperature and Precipitation in Amathole District Municipality, Eastern Cape, Province, South Africa – Supervisors Dr HB Magagula, Dr AM Kalumba and Dr L Zhou

Mbiko, L.: The perceived socio-environmental impacts of illegal sand mining along the Umvoti River in KwaDukuza Local Municipality, KwaZulu - Natal Province, South Africa. MPhil in Environmental Studies – Supervisors Drs R. Pillay and HB Magagula.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF FORT HARE

Graduations continued:

Olatoye,T : Effects of Urban Expansion on Coastal Vegetation Ecosystems Conservation and Functioning in Buffalo City Metropolitan Municipality, South Africa, PhD Geography – Supervisors dr AM Kalumba and Dr SP Mazinyo

Link to
departmental
webpage:

<https://www.ufh.ac.za/departments/geography/>

2021 student numbers :

1st year:	83
2nd year:	87
3 rd year:	31
Honours:	10
MSc:	9
MPhil:	10
PhD:	10

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF VENDA

Name of department:

- Geography and Geo-Information Sciences

The University of Venda has changed the school into a Faculty System. Within this context, the former Department of Geography and Geoinformation Sciences merged with the former Department of Ecology and Resource Management into a new Department of Geography and Environmental Sciences located in the Faculty of Science, Engineering and Agriculture

Head of department:

- Dr. NS Nethengwe

Information about the Geographers and their area of specialisation in the department:

- Dr. NS Nethengwe; Remote Sensing & GIS; Disaster management; Gully Extraction, soil erosion, Climate change adaptation, Green economy.

nthaduleni.nethengwe@univen.ac.za +27 (0) 15 962 8593

- Dr T Nelwamondo; Senior Lecturer - Eco-Tourism; Settlement Development and Urbanisation
tshililo.nelwamondo@univen.ac.za
- Dr NV Mudau; Senior Lecturer - Rural Geography virginia.mudau@univen.ac.za
- Dr MJ Mokgoebo; Lecturer- Biogeography
matjutla.mokgoebo@univen.ac.za
- Mr Kori, E; Lecturer- Geomorphology
edmore.kori@univen.ac.za
- Ms KH Netshisaulu; Lecturer- Population and Demography
khathu.mathivha@univen.ac.za
- Mr F. Dondofema,; Chief Technician GIS and Remote Sensing, Ecology
farai.dondofema@univen.ac.za
- Mr. AP Nekhavhambe; Part-time Lectuer Human/Environmental Geography
Ailwei.nekhavhambe@univen.ac.za
- Ms N. Dlamini; Part-time LecturerPart-time Lecturer – Climatology



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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF VENDA

Geographers continued:

- Dr. NS Nethengwe; Remote Sensing & GIS; Disaster management; Gully Extraction, soil erosion, Climate change adaptation, Green economy.
nthaduleni.nethengwe@univen.ac.za +27 (0) 15 962 8593
- Dr. F. Murungweni; Lecturer - GIS, RS, Ecological restoration of fresh water wetlands, climate change impacts and Lands use/ cover changes.
Florence.murungweni@univen.ac.za
- Dr. E. Stam; Senior Lecturer
- Dr. L Mugwedi; Senior Lecturer - Restoration ecology; Ecosystem-based adaptation; ecosystem services; Invasive alien plant ecology and management
Lutendo.mugwedi@univen.ac.za
- Dr. R. Mudzielwana; Senior Lecturer - Environmental Chemistry
Rabelani.mudzielwana@univen.ac.za
- Dr. J. Steyn; Senior Lecturer - Organic farming eunit@univen.ac.za
- Mr. R. Mulaudzi; Lecturer -
Ratshalingwa.mulaudzi@univen.ac.za
- Dr O. Malahlela; Senior Lecturer - Remote sensing and GIS
Oupa.malahlela@univen.ac.za

- Prof. M.Gitari; Adjunct Professor - Environmental Chemistry

Exciting departmental news

An Honours student, Mukhodení Mudau, won the 2021 Young Scholar Awards (YSA) sponsored by Esri South Africa. Mr Edmore Kori supervised the student. The Award ceremony was presented to Mukhodení on 2 September 2021 in Midrand.

A Master's student, supervised by Prof H. Chikoore and Mr Edmore Kori, Tangedzani Tshitavhe is part of the 2022/2023 polar expedition overwintering team to the Sub-Antarctic Marion Island as a Meteorological Technician on board the SA Agulhas II polar research vessel.

The following staff members were progressed from Lecturer to Senior Lecturer position in 2021:

- Dr J. Steyn
- Dr. M.J. Mokgoebo
- Dr. O. Malahlela

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UNIVERSITY OF VENDA

Departmental news continued:

Dr Florence Murungweni completed her PhD degree in 2021. Her thesis title is: *Vegetation dynamics in a semi-arid freshwater wetland: a measure for restoration success. She was supervised by the late, Prof JO Odhio and Prof O. Mutanga.*

The **Enviren Research Group** of the Department of Geography and Environmental Sciences, Faculty of Science, Engineering and Agriculture won R3, 000 in their category during the 2022 Univen Research Day. The Enviren Group consists of Mr Budeli TL, Mr Pindihama GK, Miss Munzhelele EP, Mr Shumba A, Dr Izevbekhai O. U and Dr R. Mudzielwana.

2020/2021 List of publications:

•Mudzielwana, R. and Gitari, M.W., 2021. Removal of fluoride from groundwater using MnO₂ bentonite-smectite rich clay soils composite. *Groundwater for Sustainable Development*, p.100623.
<https://doi.org/10.1016/j.gsd.2021.100623>.

Izevbekhai, O.U., Gitari, W.M., Tavengwa, N.T., Ayinde, W.B. and Mudzielwana, R., 2021. Synthesis and evaluation of the oil removal potential of 3-bromo-benzimidazolone polymer grafted silica gel. *RSC Advances*, 11(19), pp.11356-11363.
<https://doi.org/10.1039/D0RA10848K>.

Obijole, O., Mugeru, G.W., Mudzielwana, R., Ndungu, P., Samie, A. and Babatunde, A., 2021. Hydrothermally treated aluminosilicate clay (HTAC) for remediation of fluoride and pathogens from water: Adsorbent characterization and adsorption modelling. *Water Resources and Industry*, 25, p.100144.
<https://doi.org/10.1016/j.wri.2021.100144>.

Uhunamure, SE., Kom, Z, Shale, K, Nethengwe, NS and Steyn, J. 2021. Perceptions of Smallholder Farmers towards Organic Farming in South Africa Solomon. *Agriculture* 1, 11 (1157).
<https://doi.org/10.3390/agriculture11111157>.

Uhunamure, S.E , Agyekum, E.B, Durowoju, O.S, Shale, K, Nethengwe, N.S., Ekosse, G 4 and Adebayo, T.S. 2021. Appraisal of Nuclear Energy as an Alternative Option in South Africa's Energy Scenario: A Multicriteria Analysis. *Appl. Sci.* 11, 10349.
<https://doi.org/10.3390/app112110349>.

Uhunamure, E.S, Nethengwe, NS, Shale, K, Mudau, NV and Mokgoebo, M.J. 2021. Appraisal of Households' Knowledge and Perception towards E-Waste Management in Limpopo Province. *Recycling* 6, 39.
<https://doi.org/10.3390/recycling6020039>.

SSAG NEWS 2021/22

SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF VENDA

publications continued:

Uhunamure, S.E, Nethengwe, NS and Tinarwo, D. 2021. Development of a Comprehensive Conceptual Framework for Biogas Technology Adoption in South Africa. *Resources*, 10, 76. <https://doi.org/10.3390/resources10080076>.

Dalu MTB, Gunter AW, Makatu M, Dowo GM, **Dondofema F** and Dalu T. 2021. Contribution of natural forest products to rural livelihoods at Mavunde and Sambandou villages, Vhembe Biosphere Reserve, South Africa. *Sustainability*, 13:4252 .

Dalu T, Dlamini P, Wasserman RJ, Mokgoebo MJ, Mutshekwa T, **Dondofema F** and Cuthbert RN. 2021. Effects of environmental variables on littoral macroinvertebrate community assemblages in subtropical reservoirs. *Chemistry and Ecology*, 37(5):419–436

Adesoye, P.O. and Dondofema, F., 2021. Assessing and classifying the health and risk status of avenue trees. *Arboricultural Journal*, 43(2), pp.93-114.

Dalu, M.T., Gunter, A.W., Makatu, M., Dowo, G.M., Dondofema, F. and Dalu, T., 2021. Contribution of Natural Forest Products to Rural Livelihoods at Mavunde and Sambandou Villages, Vhembe Biosphere Reserve, South Africa. *Sustainability*, 13(8), p.4252.

Dalu, M.T., Gunter, A.W., Makatu, M., Dowo, G.M., Dondofema, F. and Dalu, T., 2021. Contribution of Natural Forest Products to Rural Livelihoods at Mavunde and Sambandou Villages, Vhembe Biosphere Reserve, South Africa. *Sustainability*, 13(8), p.4252.

Dalu, M.T., Gunter, A.W., Makatu, M., Dowo, G.M., Dondofema, F. and Dalu, T., 2021. Contribution of Natural Forest Products to Rural Livelihoods at Mavunde and Sambandou Villages, Vhembe Biosphere Reserve, South Africa. *Sustainability*, 13(8), p.4252.

Munyai LF, Dalu T, Wasserman RJ, Mugwedi L, Dondofema F, O'Brien G and Cuthbert RN. 2022. Functional responses and additive multiple predator effects of two common wetland fishes. *Water*, 14(5):699

Keates C, Conradie W, Dalu T, Dondofema F, Riddel ES and Wasserman RJ. 1964. Phylogenetic placement of an enigmatic south-east African water snake *Lycodonomorphus obscuriventris* Fitzsimons. *Koedoe*. 64(1):a1698.

Makherana F, Cuthbert RN, Dondofema F, Wasserman RJ, Chauke GM, Munyai LF and Dalu T. 2022. Distribution, drivers and population structure of the invasive alien snail *Tarebia granifera* in the Luvuvhu River, South Africa. *River Research and Applications*.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF VENDA

publications continued:

Makherana F, Cuthbert RN, Monaco CJ, Dondofema F, Wasserman RJ, Chauke GM, Munyai LF and Dalu T. 2022. Informing spread predictions of two alien snails using movement traits. *Science of the Total Environment*, 811(March):152364.

Dalu T, Cuthbert RN, Methi MJ, Dondofema F, Chari LD and Ryan J Wasserman. (2022). Drivers of aquatic macroinvertebrate communities in a Ramsar declared wetland system. *Science of the Total Environment*, 818(20 Apr):151683.

Nethengwe, N.S. 2022. Transport Modes and the Green Economy. In Odiyo, J., Bikam, P and J.Chakwizira (eds.), *Green Economy in the Transport sector: A case study of Limpopo province, South Africa. Switzerland: Springer*. ISBN 978-3-030-86177-3 ISBN 978-3-030-86178-0 (eBook)
<https://doi.org/10.1007/978-3-030-86178-0>.

Sikhwari, T., Nethengwe, N.S, Sigauke, C and Chikoore, H. 2022. Modelling of extremely high rainfall in Limpopo province of South Africa. *Climate*, 10, 33.
<https://doi.org/10.3390/cli10030033>.

Munyai, L.F.; Dalu, T.; Wasserman, R.J.; Mugwedi, L.; Dondofema, F.; O'Brien, G.; Cuthbert, R.N. 2022. Functional Responses and Additive Multiple Predator Effects of Two Common Wetland Fish. *Water*, 14, 699.
<https://doi.org/10.3390/w14050699>.

MSc and PhD graduations and supervisors:

Nekhavambe H. H; Fabrication of Macadamia nutshell powder-Al/Fe metal oxide modified diatomaceous earth composite beads for fluoride and pathogen removal from groundwater". MSc. Environmental Sciences. *Supervisor*; Prof Gitari W.M *Co-supervisor*; Dr Mudzielwana R.

Makhado K. P; Bioprospecting of plants species with potential to uptake inorganic chemical species from gold mine tailings and acid mine drainage. MSc. Environmental Sciences. Prof Gitari W.M *Co-supervisor*; Dr Mudzielwana R

Mavhuru, B; Analysis of land use and land cover change and its impact on soil erosion in Nzhelele Valley, Limpopo Province, South Africa. PhD Geography. *Supervisor*: Dr. NS Nethengwe *Co-supervisor*: Prof. BDO Odhiambo/Prof H. Chikoore

Nelwamondo, F.; Analysis of Peri-urban household solid waste management system: a case study of Lwamondo village. MSc Environmental Sciences. *Supervisor*; Dr. NV Mudau *Co-supervisor*; Dr. MJ Mokgoebo

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UNIVERSITY OF VENDA

MSc and PhD graduations and supervisors continued:

Muthivhi F.F; Assessing the spatiotemporal variation of phytoplankton biomass in Nandoni reservoir in the Vhembe District (South Africa) using LANDSAT satellite imagery. MSc Environmental Sciences. *Supervisor*; Dr T. Dalu *Co-supervisor*; Mr. F. Dondofema

Makherana, F; Assessing environmental factors structuring populations and movement dynamics of the invasive snail *Tarebia granifera* in a subtropical Austral reservoir. MSc Environmental Sciences. *Supervisor*; Dr Dalu *Co-supervisor*; Dr. R.N Cuthbert/ Mr. F Dondofema.

Mugari, D; Bioprospecting of indigenous species *berchemia discolor* and its socio-economic prospects in vhembe district municipality. MSc Environmental Sciences. *Supervisor*; Dr. T. Nelwamondo *Co-supervisor*; Dr. M.J. Mokgoebo.

Nemalamangwa, N.E; Investigation of Water supply challenges in Thulamela Municipality: A case study of Bunzhe and Tshififi villages. MSc Environmental Sciences. *Supervisor*; Dr. T. Nelwamondo *Co-supervisor*; Dr. M.J. Mokgoebo

2021 student numbers:

First year 400

Second year 365

Third year 200

Honours 40

Masters 15

Doctoral 5

Link to departmental webpage:

<https://www.univen.ac.za/faculties/science-engineering-and-agriculture/geography-and-environmental-sciences/>

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

RHODES UNIVERSITY

Name of department:

Geography

Head of department:

Professor Ian Meiklejohn

Information about the Geographers and their area of specialisation in the department:

- **Dr Sine Memela:** Spatial Planning & Land Reform.
- **Professors Emeritus:** R Fox, J Daniel, K Rowntree
- **Visiting Professors:** P Assmo (Development Geography), J Boelhouwers (Geomorphology), I Foster (Sediment Tracing), K Hall (Rock Weathering), T Kepe (Land Reform), E Nel (Urban and Rural Geography).
- **Research Associates:** B Cobbing (GIS), Dr A Lemahieu (Marine Spatial Planning), Dr D Pyle (Climate Change & Extreme Events), Dr B van der Waal (Fluvial Geomorphology & Soil Erosion).
- **Professor Fred Ellery:** Wetland Geomorphology, Fluvial Geomorphology.
- **Philippa Irvine:** Urban Geography, Urban Regeneration, Studentification.
- **Gillian McGregor:** The Natural Honeybush Industry, Biogeography, GIS.
- **Professor Ian Meiklejohn:** Weathering, Antarctic Geomorphology, & Remote Sensing Applications.



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SSAG NEWS 2021/22

SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

RHODES UNIVERSITY

Exciting departmental news

Honours students Tafadzwa Makhuza and Nikki Hoefnagels were awarded SAGS Jubilee Honours Bursaries.

2021/2022 List of publications

Anderson, R.L, Rowntree K.M, & Le Roux, J.J. 2021. An interrogation of research on the influence of rainfall on gully erosion. *CATENA*, 206,1-9, <https://doi.org/10.1016/j.catena.2021.105482>

Forster, I.D.L., Boardman, J., Evans, J., Copeland-Phillips, R., Vahder, A.n., Wright, S., Collins, A. & Manning, C. 2021. Anthropogenic sediment traps and network dislocation in a lowland UK river. *Earth Surface Processes and Landforms*, 47(1), 143-158, <https://doi.org/10.1002/esp.5235>

Dixon, J., Hall, K., 2022. Rock Decay in Cold Regions. In: Shroder, J.J.F. (Ed.), *Treatise on Geomorphology, Vol. 3*. Elsevier, Academic Press, 334–354, <https://dx.doi.org/10.1016/B978-0-12-818234-5.00198-X>.

Huchzermeyer N. & Rowntree K. 2021. Developing a taxa-related physical habitat score based on the response of macroinvertebrate community structure to fine bed sediment composition in the Tsitsa River, Eastern Cape, South Africa. *River Research and Applications*. 37(10), 1-14. <https://DOI:10.1002/rra.3857>.

Irvine, P.M. 2021. From Grahamstown to Makhanda: Urban Frontiers and Challenges in a Post-Apartheid City. In: Lemon, A., Donaldson, R. & Visser, G. *South African Urban Change Three Decades After Apartheid: Homes Still Apart?* Springer, 163-177.

Irvine, P.M., Memela S, Dlongolo, Z.N. & Kepe T. 2021. Navigating Community and Place Through Colloquial Street Names in Fingo Village, Makhanda (Grahamstown). *Urban Forum*. 32(3), 333-348. <https://doi.org/10.1007/s12132-021-09416-w>

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RHODES UNIVERSITY

Publications continued:

Itzkin, A.; Scholes, M.C.; Clifford-Holmes, J.K.; Rowntree, K.; van der Waal, B.; Coetzer, K. 2021. A social-ecological systems understanding of drivers of degradation in the Tsitsa River Catchment to inform sustainable land management. *Sustainability*, 13, 516.

<https://doi.org/10.3390/su13020516>.

Kepe, T. & Suah, N. 2021. Land and Fragility of Peace in Postwar Liberia: Concessions and Conflicts in the Midst of Poverty. *Journal of Peacebuilding & Development*. 16(3), 377-381, <https://doi.org/10.1177/1542316621995464>.

Lodenkemper, L.; Rowntree, K.; Hughes, D.; Slaughter, A. Integrating Sediment (dis)Connectivity into a Sediment Yield Model for Semi-Arid Catchments. *Land* 2021, 10, 1204.

<https://doi.org/10.3390/land10111204>.

Lorenzo, M., Kirk-Spriggs, A.H. & McGregor, G. 2021. The surf flies of the Mascarene Islands (Diptera: Canacidae: Canacinae), with the description of a new species. *Zootaxa*, 4990(3), 1-11,

<https://doi.org/10.11646/zootaxa.4990.3.7>.

McKenzie, M., England, J., Foster, I.D.L. & Wilkes, M. 2021. Evaluating the performance of taxonomic and trait-based biomonitoring approaches for fine sediment in the UK. *Ecological Indicators*, 134(2022), 1-11, <https://doi.org/10.1016/j.ecolind.2021.108502>.

McKenzie, M., England, J., Foster, I.D.L. & Wilkes, M. 2021. Abiotic predictors of fine sediment accumulation in lowland rivers. *International Journal of Sediment Research*, 37(2022), 1-10, <https://doi.org/10.1016/j.ijsrc.2021.06.003>

Rudd, L.F., Alred, S., Kepe, T. *et al.* 2021. Overcoming racism in the twin spheres of conservation science and practice. *Proceedings of the Royal Society B-Biological Sciences*, 288 (1962), 1-11, <https://doi.org/10.1098/rspb.2021.1871>.

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RHODES UNIVERSITY

MSc and PhD graduations and supervisors:

Breytenbach, I.J., 2021. The effects of aspect, directional heating and depth on bedrock temperatures and the potential relationship with thermal fatigue weathering. PhD (Science), Supervisor: Meiklejohn, I.

de Villiers, D. 2021. Biodiversity Conservation of South Africa's Wild Coast through the Years: Exploring the Tensions between Western-style and Local Traditional Conservation Practices. PhD (Science), Supervisor: Kepe, T. (Toronto).

Dominy, T.R. 2021 Geospatial Analysis on the effect of environmental variables on the space use patterns of four marine predators occurring in Algoa Bay, Eastern Cape, South Africa. MSc (Cum Laude), Supervisors: Meiklejohn, I., Murray, T. (SAIAB).

Erasmus, V.N. 2021. *Uncoupling the exploitation and climate change effects on the biology of Cape monkfish, Lophius vomerinus Valenciennes 1837 in Namibia.* PhD (Science), Ichthyology and Fisheries Science, Supervisors: Sauer, W.H.H., Childs, A.-R., Potts, W.M., Meiklejohn, I.

Maphoto, T. *Spatial analysis of the impact of human activities on the Marine environment in Algoa Bay, South Africa.* MSc. Supervisors: McGregor, G., Snow, B (NMU).

Manona, S.S. 2021. *The role of open government data in the repurposing of Land Administration in post-apartheid South Africa: An exploration.* PhD (Science), Supervisor: Kepe, T. (Toronto).

Memela, S.T. 2021. *Land Use Decision-Making on Residential Plots in Fingo Village, Makhanda (Grahamstown), South Africa.* PhD (Humanities), Supervisor: Kepe, T. (Toronto).

Michau, P.L. 2022. *Wild Honeybush (Cyclopia Intermedia) Augmentation.* MSc, Supervisor: McGregor, G.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

RHODES UNIVERSITY

MSc and PhD graduations and supervisors continued:

Miller, J. 2021. *Application of Environmental Magnetism to Trace Sediment Sources Contributing to Kruger National Park Reservoirs*. PhD (Science), Supervisor: Rowntree, K.

Pakati, S.S. 2021. *Investigation of sediment buffering function of the Gatberg Floodplain Wetland in the upper Tsitsa River Catchment, South Africa*. MSc (Cum Laude), Supervisors: van der Waal, B., Tanner, J. (IWR, Rhodes), Grenfell, S. (US).

Parsons, W.J. 2021. *An Investigation of the Pringle Bay Chacma Baboon (*Papio Ursinus*) Troop Using Geographic Information Systems, Tracking Collar Data and Social Media to Better Understand the Human-Wildlife Conflict*. MSc, Supervisor: McGregor, G.

van der Walt, W. 2021. *An assessment of the wild *Cyclopia subternata* (Vleitee) resource*. MSc, Supervisor: McGregor, G.

2021 student numbers:

Earth Science 101	95
Geography 102	91
Geography 2	49
Geography 3	37
Honours	11
Masters	8
PhD	6

Changes to the curriculum or course offerings:

Our 3rd Year curriculum has been changed to teach Spatial Technologies (GIS and Remote Sensing) in Semester 1. In Semester 2, the course is African Geographical Studies.

Link to departmental webpage:

<http://www.ru.ac.za/geography>

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF CAPE TOWN

Name of department:

- Environmental and Geographical Science

Head of department:

- F D Eckardt

Information about the Geographers and their area of specialisation in the department:

South African Research Chairs:

B C Hewitson – Climate Science and CSAG Director

R P Wynberg - Environmental and Social Dimensions of the Bioeconomy

Professors:

M New - Climate Change

M R Sowman - Environmental Governance and integrated coastal fisheries

M Ramutsindela - Political Geography and Political Ecology (Dean)

Associate Professors:

B J Abiodun - Atmospheric Science

P Anderson - Urban Ecology

Z Patel - Urban Transitions and Transdisciplinary Research

G Ziervogel - Climate Change Adaptation, Urban Governance, Transdisciplinary Approaches

Senior Lecturers:

J Battersby - Urban Food Security and Food Systems

Dr S Daya - Culture and identity

Dr K J Winter - Water Science and Resource Management

Lecturers:

Dr J von Holdt - Physical Geography, Land/Atmosphere interactions

Dr P Mbatha - Environmental governance and human geography

Dr S Suraya - Urban studies, urban citizenship, water & land/housing politics



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UNIVERSITY OF CAPE TOWN

Geographers continued:

Emeritus Professor:

R F Fuggle - impact assessment and management

S Parnell - urban geography

Emeritus Professor Senior Research Scholar:

M E Meadows - Physical Geography, Quaternary Environments.

Honorary Professors:

B Chase

W J Gutowski

Honorary Associate Professor:

S Lwasa

Honorary Research Associates:

D Fig

R Hill

D Scott

CSAG Researchers:

O Crespo

C Jack (CSAG Deputy Director)

P Johnston

Sr C Lennard

Dr A McClure

Dr I Pinto

A Steynor

M Tadross

L Van Aardenne

P Wolski

Exciting departmental news:

Sandile Ngcamphalala in the UCT news (graduated PhD in 2021)

<https://www.news.uct.ac.za/news/videos/-article/2022-01-10-uct-science-student-sandile-ngcamphalala-leads-the-agricultural-conversation-on-climate-change>

Dr Izidine Pinto, a climate researcher from the Climate System Analysis Group (CSAG) at UCT, has been awarded in 2022 a Y-rating by the National Research Foundation (NRF). This recognition is reserved for young researchers (within 5 years from PhD) that are considered likely to become future international leaders in their field.

IPCC-AR6-WGII, particularly chapter 9 Africa The Working Group II contribution to the IPCC Sixth Assessment Report assesses the impacts of climate change, looking at ecosystems, biodiversity, and human communities at global and regional levels. It also reviews vulnerabilities and the capacities and limits of the natural world and human societies to adapt to climate change.

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UNIVERSITY OF CAPE TOWN

departmental news continued:

CSAG and EGS researchers Chris Lennard (lead author - above), Olivier Crespo, Luleka Dlamini, Anna Steynor, Lorena Pasquini, and Luckson Zvobgo made a contribution to Chapter 9 (Africa chapter) of the Working Group II Report which assesses climate change impacts and risks, vulnerability as well as enabling conditions, barriers, and options for adaptation and climate-resilient development in Africa.

MSc and PhD graduations and supervisors :

MSc

PhD:

du Plessis Nadia; Supervisor Meadows, Michael Edward

Kusena Kudzai; Supervisor Wynberg, Rachel Paula

Lee Jessica; Supervisor Hewitson, Bruce Charles

Marshak Maya; Supervisor Wynberg, Rachel Paula

Ncube Bulisane; Supervisor Wynberg, Rachel Paula

Ngcamphalala Sandile; Supervisor Crespo, Olivier

Quagraine Kwesi; Supervisor Hewitson, Bruce Charles

Rice Wayne; Supervisor Sowman, Merle Rozanne

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF CAPE TOWN

MSc:

Abdulmajid Aminu; Supervisor Eckardt, Frank

Beerthuis Sharda; Supervisor Scheba, Suraya

Chilambwe Alice Supervisor Crespo, Olivier

Foggitt Alice; Supervisor Ziervogel, Gina

Hall Andrew; Supervisor New, Mark George

Hassan Basheir Hassan Razaz; Supervisor Selmeczi, Anna

Jana Wilfred; Supervisor Oldfield, Sophie Elaine

Joshi Nivedita; Supervisor Spear, Dian

Jubase Peliwe

Kassam Zain; Supervisor Spear, Dian

Kirr Julia Sophia; Supervisor Rennkamp, Britta

Koehler Lara-Marie; Supervisor Scheba, Suraya

Lopez Gomez Camila; Supervisor Sitas, Friderike

Louw Tayla; Supervisor Sowman, Merle Rozanne

Mahlaba Simlindile Supervisor Mbatha, Philile

Makhanya Nokwethaba; Supervisor Nokwethaba

Mogebisa Tlakale; Supervisor Abiodun, Babatunde Joseph

Montsho Oduetse; Supervisor Brown-Luthango, Mercy Magdalene

Nyamakura Balbina Supervisor Shackleton, Sheona

Oliver Dominic; Supervisor De Groot, Jiska Reinarda

Palmer Leigh-Ann Supervisor Rennkamp, Britta

Parbhoo Trisha; Supervisor Lennard, Christopher James

Reeler James ; Supervisor Winkler, Harald Ernst

Schroder Claudia; Supervisor Shackleton, Sheona

Stein Malte Supervisor Selmeczi, Anna

Stewart Liesl; Supervisor Battersby, Jane Elizabeth

Trapani Isabella; Supervisor Battersby, Jane Elizabeth

Wessels Johanna; Supervisor Trisos, Christopher Harry

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF CAPE TOWN

2 021 student numbers:

<i>First year</i>	141
<i>Second year</i>	136
<i>Third year</i>	67
<i>Honours</i>	21
<i>Masters Diss</i>	93
<i>Masters CW</i>	44
<i>PHD</i>	61
<i>Post doc</i>	18

**Link to departmental
web page:**

<http://www.egs.uct.ac.za/>

SSAG NEWS 2021/22

SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF KWAZULU- NATAL

Name of department:

- Geography

Head of department:

- Professor Michael Gebreslasie

Information about the Geographers and their area of spacialisation in the department:

- Prof. M Gebreslasie; HOD - GIS & RS
Gebreslasie@ukzn.ac.za 033 260 8276
- Prof. T. Hill; Professor -Contemporary pollen analysis, paleo-climatic reconstruction, biogeography
HillT@ukzn.ac.za 033 260 5235
- Dr. A Nel; Senior lecturer - Political ecology
NelA@ukzn.ac.za 033 260 6377
- Dr. S. Lottering; Lecturer : Rural development, socio-ecological systems
Sewells@ukzn.ac.za 033 260 5089
- Prof. O. Mutunga; SARChI Chair in Landuse Planning and Management - resource modelling, pattern and condition analysis, RS & GIS
MutangaO@ukzn.ac.za 033 260 5779
- Dr. L. Dube; Senior lecturer –
Climatology DubeL@ukzn.ac.za 033 260 6568
- Dr. J. Finch; Senior lecturer –
Palaeoecology Finchj@ukzn.ac.za 033 260 6374
- Dr. R. Lottering; Senior lecturer - GIS & RS
Lottering@ukzn.ac.za 033 260 5877
- Mr. S. Hltshwayo; Lecturer - GIS &RS, Environmental management
HlatshwayoS1@ukzn.ac.za 033 260 5585
- Dr. S. Nhlabathi; Lecturer - Urban Studies, Tourism & Urban planning
NhlabathiS@ukzn.ac.za 033 260 5345
- Prof. J. Odindi; Professor - GIS & RS
Odindi@ukzn.ac.za 033 260 5539



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- *Support Staff :*
- Mrs. S. Ramroop; Assistant administrative officer ramroopsh@ukzn.ac.za 033 260 5341
- Mr. B Gijssbertsen; Technician-
gijssbertsen@ukzn.ac.za 033 260 5346
- Mr. D. Devos; Technician
devosd@ukzn.ac.za 033 260 6255
- Miss. A. Mshengu; Assistant Administrative Officer Office Administration and Personal Assistant to the SARChI Chair MshenguA@ukzn.ac.za 033 260 5273

Exciting departmental news:

We congratulate Dr. Jemma Finch on receiving the Vice-chancellors research award for 2021. This award was granted in recognition of Dr. Jemma Finch's outstanding research achievements and international reputation she has earned in her discipline.



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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF KWAZULU- NATAL

departmental news continued:

Geoscience summerschool

Dr Jemma Finch from UKZN's Discipline of Geography, together with colleagues from UKZN, the [University of Cape Town](#) (UCT), South Africa's [Council for Geoscience](#) (CGS) and the [University of Greifswald](#) in Germany hosted a week-long field summer school for geoscience students from across Africa to provide training in bio- and geo-scientific fieldwork sampling in terrestrial and aquatic environments.



2021/2022 List of publications:

Dabengwa, A.N., Archibald, S., **Finch, J.**, Scott, L., Gillson, L., Bond, W.J. (2022). Sedimentary charcoal studies from southern Africa's grassy biomes: a potential resource for informing the management of fires and ecosystems. *African Journal of Range and Forage Science*. DOI: 10.2989/10220119.2021.2016965

Finch, J.M., Hill, T.R., Meadows, M.E., Lodder, J., Bodmann, L. (2022). Fire and montane vegetation dynamics through successive phases of human occupation in the northern Drakensberg, South Africa. *Quaternary International* 611-612, 66-76.

Hahn, A., Neumann, F.H., Miller, C., **Finch, J.M.**, Frankland, T., Cawthra, H. Schefuß, E., Zabel, M. (2021). Mid- to Late Holocene climatic and anthropogenic influences in Mpondoland, South Africa. *Quaternary Science Reviews*. doi.org/10.1016/j.quascirev.2021.106938

Norström, E., Kylander, M., Siteo, S.R., **Finch, J.M.** (2021). Chronostratigraphic palaeoclimate phasing based on southern African wetlands: From the escarpment to the eastern seaboard. *South African Journal of Geology* 124, 977-994.



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UNIVERSITY OF KWAZULU-NATAL

2021/2022 List of publications:

Hill, T.R., **Finch, J.M.** (2021). Modern pollen-vegetation relationships in the Drakensberg Mountains, South Africa. In: Runge, J., Gosling, W.D., Lezine, A.-M., Scott, L. (eds) *Palaeoecology of Africa* Special Volume 35: Quaternary Vegetation Dynamics. 275-292. Routledge.

Muringai, R., Mafongoya, P. & **Lottering R.** 2022: Climate change perceptions, impacts and adaptation strategies: Insights of fishers in Zambezi River Basin, Zimbabwe. *Sustainability*. 14, 3456.

Muringai, R. T., Mafongoya, P. L., **Lottering, R. T.**, Mugandani, R. & Naidoo, D.T. 2022: Unlocking the potential of fish to improve food and nutrition security in Sub-Saharan Africa. *Sustainability*. 14, 318.

Lottering, S, Mafongoya, P. & **Lottering R.** 2021: Assessing the social vulnerability of small-scale farmer's to drought in uMsinga, KwaZulu-Natal. *International Journal of Disaster Risk Reduction*. 65, 102568.

Chetty, S., Mutanga, O., & **Lottering, R.** 2021: Detecting and mapping invasive *Parthenium hysterophorus* L. along the northern coastal belt of KwaZulu-Natal, South Africa using image texture. *Scientific African*. 13, e00966.

Sibiya, K., **Lottering, R.**, & Odindi, J. 2021: Discriminating Commercial Forest Species using Image Texture computed from a WorldView-2 pan-sharpened image and Partial Least Squares Discriminant Analysis. *Remote Sensing Applications: Society and Environment*. 23, 100605.

Sibiya, K., **Lottering, R.**, & Odindi, J. 2021: Utility of texture combinations computed from fused WorldView-2 imagery in discriminating commercial forest species. *Geocarto International*.

Muringai, R., Mafongoya, P. & **Lottering R.** 2021: Climate change and variability impacts on Sub-Saharan African Fisheries: A Review. *Reviews in Fisheries Science & Aquaculture*. 29, 706-720.

Mthokozisi Buthelezi, **Romano Lottering**, Sizwe Hlatshwayo & Kabir Peerbhay. 2021: Comparing rotation forests and extreme gradient boosting for monitoring drought damage on KwaZulu-Natal commercial forests. *Geocarto International*.

Conference proceedings:

Mutanga, O and Chivasa, W, (2021), Maize Crop phenotyping for disease resistance using UAV Multispectral Data, The 42nd Asian Conference on Remote Sensing, 22-24 Nov, Can Tho, Vietnam.

Odebiri, O., Mutanga O. and Odindi, J., Peerbhay, K. and Dovey, S. (2021). The role of Remote Sensing in understanding South Africa's commercial forest plantations' carbon stocks. Human Science Research Council, African Unity for Renaissance Conference 26-27 May 2021 (online).

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF KWAZULU-NATAL

Conference proceedings continued:

Sibanda, M., Mutanga, M., Dube, T. and Odindi, J. 2019. Usability, strength and practicality of the upcoming HypSIRI in detecting Maize Grey leafy spot in relation to Sentinel-2 MSI, VENμS and Landsat 8 OLI spectral band-settings. RIC2019 & 4th AfriGEO Symposium 13 – 16 August 2019, Nairobi, Kenya.

Odebiri, O., **Odindi, J.**, Mutanga, O. and Peerbhay, K. (2021). Modelling Soil Organic Carbon Stocks Under Commercial Forestry in KwaZulu-Natal South Africa Using Topo-Climate Variables. The 42nd Asian Conference on Remote Sensing (ACRS2021) 22-24th November, 2021 in Can Tho University, Can Tho city, Vietnam (Online).

Mngadi, M., **Odindi, J.**, Mutanga, O., and Sibanda, M. (2021). Estimating aboveground net primary productivity of reforested trees in urban landscape using integrated biophysical variables and remotely sensed data. The 42nd Asian Conference on Remote Sensing (ACRS2021) 22-24th November, 2021 in Can Tho University, Can Tho city, Vietnam (Online).

Kgaphola, J., Kahinda, J., Ramoelo, A., Odindi, J. and Seetal, A. (2021). Land use and cover change impacts on land degradation in semi-arid: case of greater Sekhukhune district. The 22 WaterNet/WARFSA/GWP-SA Symposium, Victoria Falls and Zimbabwe 20 – 22 October 2021.

Odebiri, O., Mutang O. and **Odindi, J.**, Peerbhay, K. and Dovey, S. (2021). The role of Remote Sensing in understanding South Africa's commercial forest plantations' carbon stocks. Human Science Research Council, African Unity for Renaissance Conference 26-27 May 2021 (online).

Lottering, R., Peerbhay, K. & Lottering, S. 2021: Discriminating invasive *Solanum mauritianum* using image texture and sparse PLS discriminant analysis. 2021 International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME), 2021, pp. 1-5. Mauritius. doi: 10.1109/ICECCME52200.2021.9590904.

Lottering, S. & Lottering, R. 2021: The utility of the Temperature-Vegetation Water Stress Index in detecting and mapping drought severity. Mediterranean Geosciences Union. Istanbul.

Mthokozisi Buthelezi, Romano Lottering, Sizwe Hlatshwayo & Kabir Peerbhay. 2021: Comparing rotation forests and extreme gradient boosting for monitoring drought damage on KwaZulu-Natal commercial forests. SSAG – SAAG Joint Biennial Conference. Pretoria.

Lottering, S., Mafongoya, P. & Lottering R. 2021: Drought impacts and adaptive strategies of small-scale farmers in Umsinga, KwaZulu-Natal. SSAG – SAAG Joint Biennial Conference. Pretoria.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF KWAZULU-NATAL

Conference proceedings continued:

Lottering, R., Mutanga, O., Peerbhay, K. & Lottering, S. 2021: Does optimising the spatial resolution of vegetation indices improve the detection of chlorophyll content? 3rd Conference of the Arabian Journal of Geosciences. Sousse, Tunisia.

Mngadi, M., **Odindi, J.**, Mutanga, O. (2021). The Utility of Sentinel-2 Spectral Data in Quantifying Above-Ground Carbon Stock in an Urban Reforested Landscape. *Remote Sensing* 13, 4281.

Odebiri, O., Mutanga, O., **Odindi, J.**, Naicker, R., Masemola, C. and Sibanda, M. (2021). Deep learning approaches in remote sensing of soil organic carbon: a review of utility, challenges, and prospects. *Environmental Monitoring and Assessment* 193 (802), 1-18

Ndlovu, H.S., **Odindi, J.**, Sibanda, M.; Mutanga, O., Clulow, A., Chimonyo, V.G.P., Mabhaudhi, T. A (2021). Comparative Estimation of Maize Leaf Water Content Using Machine Learning Techniques and Unmanned Aerial Vehicle (UAV)-Based Proximal and Remotely Sensed Data. *Remote Sensing*, 13, 4091.

Mngadi M., **Odindi, J.**, Sibanda, M., Peerbhay, P., and Mutanga, O. (2021). Testing the value of freely available Landsat 8 Operational Land Imager (OLI) and OLI pan-sharpened imagery in discriminating commercial forest species, *South African Geographical Journal*, 103 (4), 501-518.

Sibiya, B., Lottering, R., and **Odindi, J.** (2021). Discriminating commercial forest species using image texture computed from a WorldView-2 pan-sharpened image and partial least squares discriminant analysis. *Remote Sensing Applications: Society and Environment*, 23, 100605

Mngadi, M., **Odindi, J.**, Peerbhay, K., and Mutanga, O. (2021) Examining the effectiveness of Sentinel-1 and 2 imagery for commercial forest species mapping, *Geocarto International*, 36 (1), 1-12.
Odebiri, O., **Odindi, J.**, and Mutanga, O (2021). Basic and deep learning models in remote sensing of soil organic carbon estimation: a brief review (2021). *International Journal of Applied Earth Observations and Geoinformation*, 102, 102389

Jombo, S., Adam, E. and **Odindi, J.** Classification of tree species in a heterogeneous urban environment using object-based ensemble analysis and World View-2 satellite imagery (2021). *Applied Geomatics*, 13 (3), 373-387

Kowe, P., Mutanga, O., **Odindi, J.** and Dube, T. (2021). Effect of landscape pattern and spatial configuration of vegetation patches on urban warming and cooling in Harare metropolitan city, Zimbabwe. *GIScience & Remote Sensing*, 58 (2), 261–280

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF KWAZULU- NATAL

Conference proceedings continued:

- Kiala, Z., Mutanga, O., **Odindi, J.**, Masemola, C..(2021). Optimal window period for mapping Parthenium weed in South Africa, using high temporal resolution imagery and the ExtraTrees classifier. *Biological Invasion*, 23, 2881-2892.
- Matongera, T.N., Mutanga, O., Sibanda, M., **Odindi, J.** (2021). Estimating and monitoring land surface phenology in rangelands: A review of progress and challenges. *Remote Sensing*, 13, 2060.
- Mosomtai, G., Azrag, A., Babin R., Abdel-Rahman, E., Odindi, J., Mutanga, O., Tonnang, H., Landmann, T., and David, G. Functional land cover scale for three insect pests with contrasting dispersal strategies in a fragmented coffee-based landscape in Central Kenya (2021). *Agriculture, Ecosystems & Environment*, 319, 107558.
- Mlambo, P., Shekede, M., Elhadi A., **Odindi, J** and Murwira, A. Home range and pace use by African Elephants (*Loxodonta African*) in Hwange National Park, Zimbabwe. *African Journal of Ecology*, 59, (4), 842-853
- Nzuza, P., Ramoelo, A., **Odindi, J.**, Kahinda, J.M. and Modonsela, S. Predicting land degradation using Sentinel-2 and environmental variables in the Lepellane catchment of the Greater Sekhukhune District, South Africa (2021). *Physics and Chemistry of the Earth, Parts A/B/C*, 124, 102931.
- Batwa-Ismail, M.Z., Moodley, R., & Mutanga, O. (2021). Elemental analysis of soils along the South African National Road (N3)—a combined approach including statistics, pollution indicators, and geographic information system (GIS). *Environmental monitoring and assessment*, 193, 1-16
- Chetty, S., Mutanga, O., & Lottering, R. (2021a). Detecting and mapping invasive Parthenium hysterophorus L. along the northern coastal belt of KwaZulu-Natal, South Africa using image texture. *Scientific African*, 13, e00966
- Chivasa, W., Mutanga, O., & Burgueño, J. (2021). UAV-based high-throughput phenotyping to increase prediction and selection accuracy in maize varieties under artificial MSV inoculation. *Computers and Electronics in Agriculture*, 184, 106128
- Cho, M.A., & Mutanga, O. (2021). Understanding participatory GIS application in rangeland use planning: a review of PGIS practice in Africa. *Journal of Land Use Science*, 16, 174-187
- Dang, A.T., Kumar, L., Reid, M., & Mutanga, O. (2021). Fire danger assessment using geospatial modelling in Mekong delta, Vietnam: Effects on wetland resources. *Remote Sensing Applications: Society and Environment*, 21, 100456

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF KWAZULU- NATAL

Conference proceedings continued:

Kiala, Z., Mutanga, O., Odindi, J., & Masemola, C. (2021). Optimal window period for mapping Parthenium weed in South Africa, using high temporal resolution imagery and the ExtraTrees classifier. *Biological Invasions*, 1-12

Kowe, P., Mutanga, O., & Dube, T. (2021a). Advancements in the remote sensing of landscape pattern of urban green spaces and vegetation fragmentation. *International Journal of Remote Sensing*, 42, 3797-3832

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Matongera, T.N., Mutanga, O., & Sibanda, M. (2021a). Characterizing bracken fern phenological cycle using time series data derived from Sentinel-2 satellite sensor. *PLOS ONE*, 16, e0257196

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Membele, G.M., Naidu, M., & Mutanga, O. (2021). Integrating Indigenous Knowledge and Geographical Information System in mapping flood vulnerability in informal settlements in a South African context: a critical review. *South African Geographical Journal*, 1-21

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF KWAZULU- NATAL

Conference proceedings continued:

- Mngadi, M., Odindi, J., Sibanda, M., Peerbhay, K., & Mutanga, O. (2021c). Testing the value of freely available Landsat 8 Operational Land Imager (OLI) and OLI pan-sharpened imagery in discriminating commercial forest species. *South African Geographical Journal*, 103, 501-518
- Mosomtai, G., Azrag, A.G., Babin, R., Abdel-Rahman, E.M., Odindi, J., Mutanga, O., Tonnang, H.E., Landmann, T., & David, G. (2021). Functional land cover scale for three insect pests with contrasting dispersal strategies in a fragmented coffee-based landscape in Central Kenya. *Agriculture, ecosystems & environment*, 319, 107558
- Mutowo, G., Mutanga, O., & Masocha, M. (2021). Optimising Sentinel-2 MSI spatial resolution for estimating foliar nitrogen concentration in miombo woodlands. *Journal of Spatial Science*, 1-15
- Ndlovu, H.S., Odindi, J., Sibanda, M., Mutanga, O., Clulow, A., Chimonyo, V.G., & Mabhaudhi, T. (2021). A comparative estimation of maize leaf water content using machine learning techniques and unmanned aerial vehicle (UAV)-based proximal and remotely sensed data. *Remote Sensing*, 13, 4091
- Nzimande, N., Mutanga, O., Kiala, Z., & Sibanda, M. (2021). Mapping the spatial distribution of the yellowwood tree (*Podocarpus henkelii*) in the Weza-Ngele forest using the newly launched Sentinel-2 multispectral imager data. *South African Geographical Journal*, 103, 204-222
- Odebiri, O., Odindi, J., & Mutanga, O. (2021). Basic and deep learning models in remote sensing of soil organic carbon estimation: A brief review. *International Journal of Applied Earth Observation and Geoinformation*, 102, 102389
- Peerbhay, K., Mutanga, O., Lottering, R., Agjee, N.e., & Ismail, R. (2021). Improving the unsupervised mapping of riparian bugweed in commercial forest plantations using hyperspectral data and LiDAR. *Geocarto International*, 36, 465-480
- Royimani, L., Mutanga, O., & Dube, T. (2021). Progress in remote sensing of plant senescence: a review on the challenges and opportunities. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*
- Sibanda, M., Buthelezi, S., Ndlovu, H.S., Mothapo, M.C., & Mutanga, O. (2021a). Mapping the *Eucalyptus* spp woodlots in communal areas of Southern Africa using Sentinel-2 Multi-Spectral Imager data for hydrological applications. *Physics and Chemistry of the Earth, Parts A/B/C*, 122, 102999

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF KWAZULU- NATAL

Conference proceedings continued:

- Sibanda, M., Gumede, N., & Mutanga, O. (2021b). Estimating leaf area index of the Yellowwood tree (*Podocarpus* spp.) in an indigenous Southern African Forest, using Sentinel 2 Multispectral Instrument data and the Random Forest regression ensemble. *Geocarto International*, 1-22
- Sibanda, M., Mutanga, O., Chimonyo, V.G., Clulow, A.D., Shoko, C., Mazvimavi, D., Dube, T., & Mabhaudhi, T. (2021c). Application of drone technologies in surface water resources monitoring and assessment: a systematic review of progress, challenges, and opportunities in the global south. *Drones*, 5, 84
- Tshabalala, N.N., Mutanga, O., & Sibanda, M. (2021a). The Utility of Sentinel-2 MSI Data to Estimate Wetland Vegetation Leaf Area Index in Natural and Rehabilitated Wetlands. *Geographies*, 1, 178-191
- Tshabalala, T., Abdel-Rahman, E.M., Masemola, C., Ncube, B., Ndhlala, A.R., & Mutanga, O. (2021b). Predicting medicinal phytochemicals of *Moringa oleifera* using hyperspectral reflectance of tree canopies. *International Journal of Remote Sensing*, 42, 3955-3980
- Naidoo, D., Nhamo, L., Lottering, S., Mpandeli, S., Liphadzi, S., Modi, A.T., Trois, C. and Mabhaudhi, T., 2021. Transitional Pathways towards Achieving a Circular Economy in the Water, Energy, and Food Sectors. *Sustainability*, 13(17), p.9978
- Tshabalala, T., Abdel-Rahman, E.M., Ncube, B., Ndhlala, A.R., & Mutanga, O. (2021c). Leveraging of hyperspectral remote sensing on estimating biomass yield of *Moringa oleifera* Lam. medicinal plant. *South African Journal of Botany*, 140, 37-49
- Goldin, J., Nhamo, L., Ncube, B., Zvimba, J.N., Petja, B., Mpandeli, S., Nomqophu, W., Hlophe-Ginindza, S., Greeff-Laubscher, M.R., Molose, V. and Lottering, S., 2022. Resilience and Sustainability of the Water Sector during the COVID-19 Pandemic. *Sustainability*, 14(3), p.1482.
- Botai, J.O., Botai, C.M., Ncongwane, K.P., Mpandeli, S., Nhamo, L., Masinde, M., Adeola, A.M., Mengistu, M.G., Tazvinga, H., Murambadoro, M.D. and Lottering, S., 2021. A review of the water–energy–food nexus research in Africa. *Sustainability*, 13(4), p.1762.
- Lottering, S., Mafongoya, P. and Lottering, R., 2021. Drought and its impacts on small-scale farmers in sub-Saharan Africa: a review. *South African Geographical Journal*, 103(3), pp.319-341.
- Lottering, S.J., Mafongoya, P. and Lottering, R., 2021. The impacts of drought and the adaptive strategies of small-scale farmers in uMsinga, KwaZulu-Natal, South Africa. *Journal of Asian and African Studies*, 56(2), pp.267-289.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF KWAZULU- NATAL

UKZN Westville Publications:

Padayachee AL, Govender CO, **Procheş Ş**. 2022. Biogeographic Regionalization: Land. In: Cardozo da Silva JM (ed.) *Encyclopedia of Biodiversity*, 3rd edition, Elsevier, invited contribution, in press.

Cheek MD, **Procheş Ş**. 2022. The value of arboreta in South Africa. *South African Journal of Science*, in press.

Haran J, Benoit L, **Procheş Ş**, Kergoat GJ. 2022. *Ebenacobius*, a new southern African genus of flower weevils (Coleoptera: Curculioninae: Derelomini) associated with dicotyledonous plants. *European Journal of Taxonomy*, in press.

Sieben EJJ, **Procheş Ş**, Mashau AC, Moshobane, MC. 2022. The alignment of wetland restoration programmes and alien control programmes: a challenge for conservation management in South Africa. *South African Journal of Science* 118: 11540.

Wanat M, **Procheş Ş**. 2021. Contribution to the morphology, biology and distribution of *Mecolenus wahlbergi* Schoenherr, 1847, a relict African apionine weevil (Coleoptera: Brentidae: Apioninae). *Zootaxa*, 5067: 40–54.

Perera SJ, Herbert DG, **Procheş Ş**, Ramdhani S. 2021. Land snail biogeography and endemism in south-eastern Africa: implications for the Maputaland-Pondoland-Albany biodiversity hotspot. *PLoS One* 16: e0248040.

Procheş Ş, Ramdhani S, Hughes AC, Koh L-P. 2021. Southeast Asia as the world's primary source of biotic recolonisation following Anthropocene extinctions. *Frontiers in Ecology and Evolution* 9: 634711.

Ntshanga NK, **Procheş Ş**, Slingsby JA. 2021. Assessing the threat of landscape transformation and habitat fragmentation in a global biodiversity hotspot. *Austral Ecology*, 46: 1052-1069.

Pahlad R, **Procheş Ş**. 2021. Birdwatching in a southern African context: explaining highlights on bird lists. *South African Geographical Journal*, 103: 411– 419.

2020 Naidoo, A. and Munien, S. The socio-economic impacts of solar water heaters compared across two communities: A case study of Cato Manor. *Renewable and Sustainable Energy Reviews*, 132, 110141.

2020 Stojšić, I. and Munien, S. Teaching practicals in the time of physical distancing: Advances, challenges and recommendations for Higher Education. *Alternation African Scholarship Book Series (AASBS)*, p.34.

2020 Bob, U., Munien, S., Gumede, A. and Gounden, R., Supporting research at South African universities during the COVID-19 crisis: Key areas for consideration and critical reflections on responses with a focus on postgraduate education. *Alternation African Scholarship Book Series (AASBS)* (p224-246).

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UNIVERSITY OF KWAZULU- NATAL

UKZN Westville Publications continued:

2021 Sershen, Padayachee, A.; Munien, S. and Bob, U. COVID-19 presents South Africa with an opportunity to circularise its economy. In: Pushing Frontiers: Multi-Disciplinary Reflections of Science Post COVID-19, (eds) W.T. Chinyamurindi, AOSIS, Cape Town, South Africa

MSc and PhD graduations and supervisors:

Samantha Chetty. Using spectral and textural information to detect and map *parthenium hysterophorus l.* in Mtubatuba, South Africa. MSc. Supervisor Dr. R.T Lottering

Nwabisa Mkize. Detecting and mapping *solanum mauritianum* in commercial forest plantations using image texture ratios. Msc. Supervisor Dr. R.T Lottering

Philasande Shange. Mapping temporal changes in land-use in the eThekweni region and its impacts on land degradation. Msc. Supervisor Dr. R.T Lottering

Mthokozisi Buthelezi. The use of machine learning algorithms to analyse the impacts of droughts on commercial forests in KwaZulu-Natal (awarded *Cum Laude*). MSc. Supervisor Dr. R.T Lottering

Bongokuhle Sibiya. Discriminating commercial forest species using image texture computed from WorldView-2 imagery and partial least square discriminate analysis. MSc. Supervisor Dr. R.T Lottering

Tsoeleng, T. Efficacy of Morphological Approach in the Classification of Urban Land Covers. Msc. Supervisor Prof. O. Odindi

Walter Chivasa. UAV and field spectrometer based Remote Sensing for maize phenotyping, varietal discrimination and yield forecasting. PhD. Supervisor Prof. O Mutanga

Pedzisai Kowe. A spatially explicit approach for analysing the landscape pattern of urban vegetation using remotely sensed data and its impacts on urban surface temperature. PhD. Supervisor Prof. O Mutanga

Calvin Sambo. Free basic water services standards as indicators to assess inequalities in sustainable access to improved water services. PhD. Supervisor Prof. O Mutanga

Tshabalala, Thulani. A Remote Sensing Approach in Understanding the Cultivation and Physio-Biochemical Properties of *Moringa oleifera*. PhD. Supervisor Prof. O Mutanga

Nosiphiwo Nodada. Smallholder Farmers' Perceptions of the Effects of Climate Change on Livestock Management Decisions. MSc. Supervisor Dr. R.T Lottering

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UNIVERSITY OF KWAZULU-NATAL

MSc and PhD graduations and supervisors continued:

Naicker, Rowan. Investigating the Utility of Multisource Remotely Sensed Data in Evaluating Nitrogen Variability and the Productivity of Tropical Grasses Grown under Diverse Nitrogen Treatments. PhD. Supervisor Prof. O Mutanga

Kiala, Zolo Zime Zinu Serge. Thesis: Remote Sensing of Invasive Plant Species: Optimization of Sentinel-2 and Landsat 8 imagery for Enhanced Mapping of the Invasive Parthenium Hysterophorus in South Africa. PhD. Supervisor Prof. O Mutanga

Mutowo, Godfrey. Broadband Remote Sensing Estimation of Foliar Nitrogen in Dry Miombo Woodlands. PhD. Supervisor Prof. O Mutanga

Jean Baverstock. Revisiting the Dendroclimatological potential of *Afrocarpus Falcatus*, South Africa. Msc. Supervisor Prof. T. Hill, Prof. S. Woodborne and Dr J. Finch.

UKZN WESTVILLE:

Chanelle Govender (2019-2020; graduated 2021; awarded cum laude) Mapping regional representativeness in global vertebrate geography. MSc, UKZN. Supervisor Prof Serban Proches

2019-2021 : NS Perry MSc (cum laude) - Assessing the economic impacts of Coastal and Marine Tourism (CMT) in South Africa using a simplified economic model: Challenges and prospects. Supervisor S Munien

2019-2021: D Kanniah MSc (cum laude) - An appraisal of approaches and techniques used to establish the impacts of renewable energy technologies. Supervisor S Munien

2019-2021: D Gounden MSc - An assessment of visitor profiles, consumption patterns and perceptions as well as the state of coastal and marine tourism (specifically beach) sites in KwaZulu-Natal province, South Africa. Supervisor U Bob & S, Munien

2014-2020: CN Webster MSc- Investigating the water quality, health and land-use practice nexus: The case of Umhlatuzana township. Supervisor S Munien & S Naidoo

The effectiveness of a non-governmental farmer support programme in increasing access to agricultural markets and reducing poverty amongst female-headed farmers: A comparison between subsidised farms and non-subsidised farms within the Ubuhlebezwe Local Municipality. (Hansrod, L.-213504378): Co-supervising with Dr S.L.Nkomo.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

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2020 Student numbers:

<i>First Year</i>	210
<i>Second Year</i>	115
<i>Third Year</i>	120
<i>Honours</i>	18
<i>MSc</i>	35
<i>PhD</i>	20

Link to departmental webpage:

[https://saees.ukzn.ac.za/disciplines/
#geography](https://saees.ukzn.ac.za/disciplines/#geography)

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF KWAZULU-NATAL: HOWARD COLLEGE

Information about the Geographers and their area of specialisation in the department:

- Professor Brij Maharaj; Professor - Urban politics, mega-events, segregation; local economic development; xenophobia, and human rights; migration and diasporas; religion; philanthropy; and development MaharajB@ukzn.ac.za 0312601027
- Dr Silas Njoya Ngetar; Senior Lecturer - GIS and Remote Sensing; Soil Erosion; Climate change; Environmental Management Njoya@ukzn.ac.za 0312603161
- Dr Orli Bass; Senior Lecturer - Urban identity and Durban; cities and culture; mega-events; gender and cities; aspects relating to geography discipline in South Africa. Bass@ukzn.ac.za 0312603902
- Dr Lucky Nkomo; Lecturer - Environmental Management NkomoS1@ukzn.ac.za 0312601149
- Mrs Feroza Morris; Junior Lecturer - Hydrometeorology; environmental hydrology MorrisF@ukzn.ac.za 0312602244

2021/2022 List of publications:

Maharaj, B. 2021. Megasport Events and Urban Risks: Fifa 2010, the African Bid and Xenophobic Violence. In L. Leonard, R. Musavengane, and P. Siakwah (eds.). Sustainable Urban Tourism in Sub-Saharan Africa: Risk and Resilience. Routledge, pp. ISBN: 978-0-367-90414-2

Maharaj, B. 2021. The NRI Gupta Waterkloof Landing: Implications for Political Integration of PIOs in South Africa In R. Gowricharn (ed.), The politics of Integration in Indian Diaspora Societies. New York: Routledge, pp. 67-84. ISBN: 978-1-138-34685-7

Maharaj, B. 2021. DURBAN – Betraying the struggle for a democratic city? In T Lemon, R Donaldson & G Visser (Eds.) South African Urban Change Three Decades After Apartheid - Homes Still Apart? Springer, pp. 57-79. ISBN:9783030730727

Maharaj, N. and Maharaj, B. 2021. Sanitation Challenges and Policy Options in Developing Countries: A Critical Review. In In B Thakur et. al. (eds), Resource Management, Sustainable Development and Governance: Indian and International Perspectives. Springer, pp. 399-414. ISBN 978-3-030-85838-4



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2021/2022 List of publications:

Nhlabathi, S.S. and Maharaj, B. 2021. The communitarian ethics and environmental conservation and development. In R.B. Singh, D. Wei and S. Anand (eds.), *Global Geographical Heritage, Geoparks and Geotourism*. Springer, pp. 95-103. ISBN: 9789811549557

Nhlabathi, S.S. and Maharaj, B. 2021. Gentrification and social activism in Cape Town (South Africa): Proposing a local-global nexus. In J.D. Mujica, J.M. Carvalho, J.M.P. Castellano (eds.), *International Residential Mobilities: from lifestyle migrations to tourism gentrification*. Springer, pp. 291-309. ISBN: 9783030774653

Crosby M., Maharaj B. 2021. Aerotropolis and Urban and Regional Impacts: The Case of the King Shaka International Airport in Durban, South Africa. In: Singh R.B., Chatterjee S., Mishra M., de Lucena A.J. (eds) *Practices in Regional Science and Sustainable Regional Development*. Springer, Singapore, pp.223-238. ISBN: 978-981-16-2220-5

Phinzi, K., Ngetar, N.S. and Ebhuoma, O., 2021. Soil erosion risk assessment in the Umzintlawa catchment (T32E), Eastern Cape, South Africa, using RUSLE and random forest algorithm. *South African Geographical Journal*, 103(2), pp.139-162.

MSc and PhD graduations and supervisors:

Fitzgerald, T; *Abandoning the Ark in Durban: Development, Displacement, Resettlement and Livelihood Struggles*. Supervisor Professor Brij Maharaj

Gray, R; *Environmental Justice: A Comparative Study of South Durban and Hillcrest*. PhD Supervisor Professor Brij Maharaj

Rwandarugali, S; *The application of Geographical Information Systems (GIS) to armed violent conflicts resolution in the Great Lakes region of Central and East Africa*. PhD Supervisor Dr Silas Njoya Ngetar

Ross, J. *Environmental responsibility in children: The Ecobrick experience in select primary schools in Durban*. Masters Supervisor Professor Brij Maharaj

Baldwin, E. *There is a food waste crisis, not a food crisis”: food wastage in supermarkets in Westville, Durban*. Masters Supervisor Professor Brij Maharaj

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UNIVERSITY OF KWAZULU- NATAL: HOWARD COLLEGE

MSc and PhD graduations and supervisors continued:

Boodhoo, S. Developers versus Ratepayers?
Contravening Land use, Zoning and Development
Controls in Currie Road, Berea, Durban. Masters
Supervisor Professor Brij Maharaj.

Rakgoale, P. Identifying, mapping and analysing the
hot and cold spots of burglaries: A GIS- based case
study of the Greater Durban Area from 2015- 2017.
Masters Supervisor Dr Silas Njoya Ngetar

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF SOUTH AFRICA

Name of department:

- Geography

Head of department:

- Dr Shandu Nenwiini

Information about the Geographers and their area of specialisation in the department:

Prof Gunter, A; Professor Urban Geography Distance Education. D.Phil
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Geographers continued:

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Mrs Khotoo, A; Lecturer Human Geography.
MSc khotoa@unisa.ac.za

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Tourism Geography. MA Lombae1@unisa.ac.za

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Mr Ramasunga, P; Junior Lecturer Land and
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energy, human settlement and land use. BES
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Ms Lotz, CE; Technical Assistant
Environmental degradation Rehabilitation.
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Ms de Vries, L; Lecturer Urban Geography
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Dr Manuel, K; Lecturer Urban Geography,
Migration Studies. PhD
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Mr Mbhamali, TW; Lecturer Environmental
Sciences
Atmospheric Sciences
Hydrology
Spatio-temporal Analysis. MSc
mbhamtw@unisa.ac.za

Mr Munyai, RB; Lecturer Risk hazard and
vulnerability
Weather and Climate variability
Population dynamics and demography. MSc
munyarb@unisa.ac.za

Dr Radingoana, MP; Lecturer Greywater
reuse Food security Waste management.
PhD radinmp@unisa.ac.za

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Postdoctoral Fellows:

Dr Dalu M. NRF Postdoc Fellow.
Environmental Geography ODeL. PhD.

Dr Kusena W. UNISA Postdoc Fellow.
Environmental Geography. PhD

Dr Nkosinkulu Z. DEPA Postdoc Fellow.
Decolonial Aesthetics. PhD.

Academic Associate:

Prof Liebenberg L. Associate Fellow. Historical
Maps Cartography. PhD

Administration:

Ms M Maepe; Administrative Officer
maepem@unisa.ac.za

Ms SKuhlase; Administrative Officer
kuhlasv1@unisa.ac.za

Ms H Steenkamp; Departmental Secretary
steenhe@unisa.ac.za

Mr L Thenga ; Administrative Support
thengla@unisa.ac.za

Exciting departmental news

The following staff completed qualifications:

- Dr Manuel completed a PhD at UNISA
- Dr Radingoana completed a PhD at NWU
- Mr Schoeman completed a MSc at UNISA

Grants Awarded in 2021:

Prof Gunter was awarded an AHRC grant to develop the impact of his main award to the value of R860 000

NRF rating

- Prof Hedding was rerated and awarded a C1
- Dr Du Plessis was rated with a rating of Y2

Awards:

- Prof Hedding was honoured with the Vice-Chancellors Award for Excellence in Research
- Prof Gunter was inducted into the 'Millionaires Club' at UNISA with external grants awarded over one million Rand

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departmental news continued:

Editing:

- The Journal of Geography Education in Africa with Dr Dirsuweit as Editor-in-Chief was given DHET accredited.
<https://upjournals.up.ac.za/index.php/jogea>
- Prof Hedding joined the South African Geographical Journal as Editor-in-Chief (Physical Geography) joining Prof Gunter Editor-in-Chief (Human Geography) as editors of the journal.
- Prof Schmitz is the Editor-in-Chief of the South African Journal of Geomatics

Postdocs:

- Dr Kusena: funded by the UNISA postdoc program, Dr Kusena conducted postdoctoral research under the mentorship of Prof Nicolau
- Dr Dalu: funded by a NRF freestanding fellowship, Dr Dalu conducted postdoctoral research under the mentorship of Prof Gunter
- Dr Nkosinkulu: funded by the AHRC (UK) under the DEPA grant, Dr Nkosinkulu conducted postdoctoral research under the mentorship of Prof Gunter

Research Associates:

- Prof Liebenberg: As a B rated scientist, Prof Liebenberg has continued her association with the department and continued publishing high impact papers on historical cartography.

2021/2022 List of publications

Dalu, M, and Gunter, A., Makatu, M, Gregory M. Dowo, Farai Dondofema, and Tatenda Dalu. "Contribution of Natural Forest Products to Rural Livelihoods at Mavunde and Sambandou Villages, Vhembe Biosphere Reserve, South Africa." *Sustainability* 13, no. 8 (2021): 4252.

de Vries, L. and Gunter, A., 2021. 'Eventualising' Physical Leisure Activity: How Gauteng Parkrunners Brought the Parkrun Home during COVID-19. *African Journal of Hospitality, Tourism and Leisure*, 10(5), pp.1562-1575.

du Plessis, A., 2021. Necessity of making water smart for proactive informed decisive actions: A case study of the upper Vaal catchment, South Africa. *Environmental Challenges*, 4, p.100100.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF SOUTH AFRICA

Publications continued:

- Mittelmeier, J., **Gunter, A.**, Raghuram, P. and Rienties, B., 2021. Migration intentions of international distance education students studying from a South African institution: unpacking potential brain drain. *Globalisation, Societies and Education*, pp.1-19.
- Mittelmeier, J., Rienties, B., **Gunter, A.** and Raghuram, P., 2021. Conceptualizing internationalization at a distance: A “third category” of university internationalization. *Journal of Studies in International Education*, 25(3), pp.266-282.
- Steyn, C. and **Gunter, A.**, 2021. When an international student stays at home: defining an international student in distance education. *Journal of Geography in Higher Education*, pp.1-15.
- Xu, Z., Li, T., Li, G., **Hedding, D.W.**, Wang, Y., Gou, L.F., Zhao, L. and Chen, J., 2021. Lithium isotopic composition of soil pore water: Responses to evapotranspiration. *Geology*.
- Nel, W., Boelhouwers, J.C., Borg, C.J., Cotrina, J.H., Hansen, C.D., Haussmann, N.S., **Hedding, D.W.**, Meiklejohn, K.I., Nguna, A.A., Rudolph, E.M. and Sinuka, S.S., 2021. Earth science research on Marion Island (1996–2020): a synthesis and new findings. *South African Geographical Journal*, 103(1), pp.22-42.
- Sumner, P.D., Rughooputh, S.D., Boojhawon, R., Dhurmea, K., **Hedding, D.W.**, le Roux, J., Pasnin, O., Tatayah, V., Zaynab, A. and Nel, W., 2021. Erosion studies on Mauritius: overview and research opportunities. *South African Geographical Journal*, 103(1), pp.65-81.
- Momberg, M., **Hedding, D.W.**, Luoto, M. and le Roux, P.C., 2021. Exposing wind stress as a driver of fine-scale variation in plant communities. *Journal of Ecology*, 109(5), pp.2121-2136.
- Pourret, O., **Hedding, D.**, Ibarra, D., Irawan, D., Liu, H. and Tennant, J., 2021. International disparities in open access practices in the Earth Sciences. *European Science Editing*
- Rudolph, E.M., **Hedding, D.W.** and Nel, W., 2021. The surface geology of the Prince Edward Islands: refined spatial data and call for geoconservation. *South African Journal of Geology* 2021, 124(3), pp.627-638.
- Momberg, M., **Hedding, D.W.**, Luoto, M. and le Roux, P.C., 2021. Species differ in their responses to wind: the underexplored link between species fine-scale occurrences and variation in wind stress. *Journal of Vegetation Science*, 32(6), p.e13093.
- Rudolph, E.M., **Hedding, D.W.** and Nel, W., 2021. The glacial geomorphology of sub-Antarctic Marion Island. *Journal of Maps*, 17(2), pp.313-324.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

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Publications continued

Hedding, D.W. and Breetzke, G., 2021. "Here be dragons!" The gross under-representation of the Global South on editorial boards in Geography. *The Geographical Journal*, 187(4), pp.331-345.

Li, T., **Hedding, D.W.**, Chen, J. and Li, G., 2021. Modulation of effective precipitation by temperature in the East Asian monsoon margins during Marine Isotope Stage 5. *Geophysical Research Letters*, 48(24),

Horn, A., 2021. Pretoria-Tshwane: Past, Present and Future Urban Changes. In *South African Urban Change Three Decades After Apartheid* (pp. 81-101). Springer, Cham.

Hamann, C. and **Horn, A.C.**, 2021. Socio-economic inequality in the City of Tshwane, South Africa: a multivariable spatial analysis at the neighborhood level. *GeoJournal*, pp.1-18.

Kusena, W., Nicolau, M. and Simphiwe, N.I., 2021, October. Implications of the Urban Water and Food Systems Governance Nexus for Household Food Security in the City of Gweru, Zimbabwe. In *Urban Forum* (pp. 1-20). Springer Netherlands.

Kusena, W., Chemura, A., Dube, T., Nicolau, M. and Marambanyika, T., 2021. Landuse and landcover change assessment in the Upper Runde sub-catchment, Zimbabwe and possible impacts on reservoir sedimentation. *Physics and Chemistry of the Earth, Parts A/B/C*, p.103105. 142

Lombard, A., Nicolau, M., Tshabalala, S., Plessis, A.D., Pienaar, R., Anderson, R. and Khanye, B., 2021. The Feasibility of an Environmental Awareness and Responsibility Programme in Rural South Africa: A Case Study from the South. In *Sustainable Development in Africa* (pp. 591-612). Springer, Cham.

Dzawanda, B., **Nicolau, M.D.**, Matsa, M. and **Kusena, W.**, 2021. Livelihood outcomes of informal cross border traders prior to the rise of the virtual cash economy in Gweru, Zimbabwe. *Journal of Borderlands Studies*, pp.1-20.

Dzawanda, B., **Nicolau, M.D.** and Matsa, M., 2021, December. Impact of virtual cash economy on livelihood outcomes of informal cross border traders in Gweru, Zimbabwe. In *Urban Forum* (Vol. 32, No. 4, pp. 521-539). Springer Netherlands.

Dzawanda, B., Matsa, M. and **Nicolau, M.**, 2021. Poverty on the rise: The impact of the COVID-19 lockdown on the informal sector of Gweru, Zimbabwe. *International Social Science Journal*, 71(S1), pp.81-96.

Mbhamali, T.W. and Jury, M.R., 2021. Climate-sensitivity of sugarcane yield in the southeastern Africa lowlands. *International Journal of Climatology*, 41(8), pp.4187-4200.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

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Publications continued

Fayomi, G.U. and **Mini, S.E.**, 2021. An Overview of Low Income Housing Demands Challenges: A Case Study of Nigeria and South Africa. In *Advances in Science and Technology* (Vol. 107, pp. 215-226). Trans Tech Publications Ltd.

Leal Filho, W., Salvia, A.L., Brandli, L., Azeiteiro, U.M. and **Pretorius, R.** eds., 2021. *Universities, Sustainability and Society: Supporting the Implementation of the Sustainable Development Goals*. Springer Nature.

Leal Filho, W., Sousa, L.O.D. and **Pretorius, R.**, 2021. Future Prospects of Sustainable Development in Africa. In *Sustainable Development in Africa* (pp. 733-741). Springer, Cham.

Leal Filho, W., Sousa, L.O.D. and **Pretorius, R.**, 2021. Future Prospects of Sustainable Development in Africa. In *Sustainable Development in Africa* (pp. 733-741). Springer, Cham.

Pretorius, R.W., 2021. An exploration of interdisciplinary settings as intellectual spaces for sustainability in higher education. In *Handbook on Teaching and Learning for Sustainable Development*. Edward Elgar Publishing.

Pretorius, R.W., Carow, S., Wilson, G. and Schmitz, P., 2021. Using real-world engagements for sustainability learning in ODeL in the Global South: challenges and opportunities. *International Journal of Sustainability in Higher Education*

de Bruin, M. and **Schmitz, P.M.U.**, 2021. The application of forensic geomorphology in rhinoceros poaching investigations in Africa. *South African Geographical Journal*, 103(1), pp.43-63.

Schmitz, P., Inglis, K. and Holloway, P., 2021, December. Forensic mapping in a civil proceeding in South Africa. In *Proceedings of the ICA* (Vol. 4, p. 96).

Tshabalala, S. and Gunter, A., 2021. Technologies of Government and Policy Implementation in Small Towns Economic Development Plans in Mpumalanga, South Africa. *The Routledge Handbook of Small Towns*, pp.361-372.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF SOUTH AFRICA

MSc and PhD graduations and supervisors

PhD in Geography:

E T AYELE. Children and youth migration to Hawassa City of Ethiopia in the pursuit of livelihoods. *Supervisor;* Prof A Gunter

A Y WUDU, Urban expansion and its impact on peri-urban areas: The case of Debre Berhan Town, Amhara regional state, Ethiopia *Supervisor;* Prof A Horn

B W ENDALE, Impact of climate variability, extreme events and adaptation on pre- and post-harvest cereal crop production practices in Merti District, Ethiopia *Supervisor;* Prof S Mini

S E WOLDEKIRO. Indigenous knowledge and cultural tourism development in the konso world heritage site, southwestern Ethiopia *Supervisor;* Prof S Mini

K MANUEL. Africanisation of Rights to City-space and belonging to Urban Space: The Case of Refugees' Rights to Urban Space of Johannesburg *Supervisor;* Prof S Mini

G U FAYOMI. comparative assessment of the impact of the Social Housing Programme as a viable alternative for urban poor: A case study of Social Housing Provision in Lagos, Nigeria and Johannesburg in South Africa *Supervisor;* Prof S Mini

B DZAWANDA. Impact of the virtual cash economy on informal cross border traders' livelihood outcome in Gweru, Zimbabwe. *Supervisor;* Prof M Nicolau

MSc in Geography:

M MLAMBO. The spatial economic impact of informal rental housing on low-income households: The case of Caleb Motshabi, Bloemfontein *Supervisor;* Prof A Gunter

T J RAMARU. Land Restitution in Limpopo Province South Africa: Constraints and Opportunities for Sustainable Livelihoods on Land Restitution in Makhado Municipality *Supervisor;* Prof S Mini

K I MTHIMUNYE . A Comparative Evaluation of Water Supply Perceptions and Overall Water Stewardship in Hammanskraal and Atteridgeville *Supervisor;* Dr A Du Plessis

S SCHOEMAN . Green Buildings: the influence of rating agencies and greenwashing in the green rating of buildings: the case of Johannesburg *Supervisor;* Prof A Gunter

N NTHUNGENI . Small-scale farmers' perceptions on the causes of land degradation in the Luvuvhu catchment, Limpopo Province, South Africa *Supervisor;* Prof Hedding and Mr Anderson

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

UNIVERSITY OF SOUTH AFRICA

2021 Student numbers:

<i>First Year</i>	6548
<i>Second Year</i>	3386
<i>Third Year</i>	397
<i>Honours</i>	73
<i>MSc</i>	65
<i>PhD</i>	52

Link to departmental webpage

<https://www.unisa.ac.za/sites/corporate/default/Colleges/Agriculture-&-Environmental-Sciences/Schools,-departments,-centres-&-units/School-of-Ecological-and-Human-Sustainability/Department-of-Geography>

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

NELSON MANDELA UNIVERSITY

Name of department:

- Geosciences

Head of department:

- Dr AH de Wit

Information about the Geographers and their area of specialisation in the department:

- Dr AH de Wit – Environmental Management / Human Geography
- Dr L Williams-Bruimders – Human Geography
- Dr W Britz – GIS
- Ms E Nkooe – Human Geography

Exciting departmental news

Ms E Nkooe was appointed as Human Geographer in 2021

2021/2022 List of publications:

Wesson, C. & W. Britz, 2021. Using remote sensing to assess plant health and drought response in game reserves and adjacent farmland overtime in the Eastern Cape, South Africa. **South African Journal of Geomatics**, 10(2):223-237.

Mawasha, T.S. & W. Britz, 2021. Using remote sensing to assess plant health and drought response in game reserves and adjacent farmland overtime in the Eastern Cape, South Africa. **South African Journal of Geomatics**, 10(2): 139-162.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

NELSON MANDELA UNIVERSITY

Conference Presentations:

Williams-Bruinders, L. & A. Forbes, 2021. Assessing the Livelihood Strategy of the Vulnerable Fisherfolk of Korsten, Port Elizabeth, South Africa. Paper read at the International Geographical Congress (IGC), Istanbul University, Istanbul, Turkey.

Pringle, G. & A.H. de Wit, 2021. Costs and consequences at the Population, Environment, Development interface in St Francis Bay: exploring the linkages of a complex system. Paper read at the Biannual Conference of the Society of South African Geographers (Online, 06 - 08 September).

Wesson, C. & W. Britz, 2021. Using remote sensing to assess plant health and drought response in game reserves and adjacent farmland overtime in the Eastern Cape, South Africa. Paper read at the Biannual Conference of the Society of South African Geographers (Online, 06 - 08 September).

MSc and PhD graduations and supervisors

MSc:

Forbes, A. Assessing the Socio-economic and Institutional Dimensions Affecting the Livelihoods of the Vulnerable Fisherfolk of Korsten, Port Elizabeth. Supervised by Dr L Williams-Bruinders.

Tembe, T. The Potential Impacts of Hydraulic Fracturing on Khoisan People's Sense of Place: The Case of the Karoo Region, South Africa. Supervised by Dr L Williams-Bruinders

PhD

Kiggundu, J. Towards a community-based model for agricultural development in Uganda, using the Kumi and Gomba Districts as case studies. Supervised by Dr AH de Wit.

Mawasha, T.S. Predicting Flash Flooding in South African Cities: A VCase Study of the Jukskei River Catchmernt, City of

Johannesburg. Supervised by Dr W Britz.

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

NELSON MANDELA UNIVERSITY

2021 Student numbers:

First Year: 238

Second Year: 66

Third Year: 68

Hons: 14

Masters: 8

Doctoral: 4

*Link to departmental
webpage*

<https://geosci.mandela.ac.za/>

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

STELLENBOSCH UNIVERSITY

Name of department:

Geography and Environmental Studies

Head of department:

- Dr Du Plessis (2020-2021) Prof R Donaldson (2022-2023)

Information about the Geographers and their area of specialisation in the department:

- Prof Ronnie Donaldson; Professor - Urban social geography, small town geographies and tourism studies rdonaldson@sun.ac.za 021 8082395
- Prof Gustav Visser; Professor: Urban & Tourism development Urban geography; tourism geography; sexuality and South African institutions and geography in higher education gvisser@sun.ac.za 021 8083103
- Dr Manfred Spocter; Senior lecturer- Small-town geographies, urban environmental issues, geographies of security, urban social geographies mspocter@sun.ac.za 021 808 3095

- Dr Samantha Williams; Lecturer- Natural resources, livelihoods and governance samanthawilliams@sun.ac.za 021 8084975
- Dr Suzanne Grenfell; Senior Lecturer- Processes of sediment transport in rivers and wetland; Processes of wetland formation Quaternary sedimentology of wetlands; Impact of climatic variability and climate change on geomorphic processes; Geomorphology of estuaries and coastal wetlands sgrenfell@sun.ac.za 021 8083105
- Mr Jan De Waal; Lecturer - Climate change; Flooding risk assessment; Urban risk research with a particular focus on informal settlements janniedw@sun.ac.za 021 8083108
- Prof Adriaan van Niekerk; Professor / Director of the CGA- GIT, spatial decision support systems avn@sun.ac.za 021 8083101
- Prof Helen De Klerk; Associate Prof - GIS, Spatial analysis, biogeography, species modelling, fire ecology hdeklerk@sun.ac.za 021 8089322
- Dr Zahn Münch; Senior Lecturer- GIS, spatial decision making zmunch@sun.ac.za 021 8089101



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STELLENBOSCH UNIVERSITY

Geographers continued:

- Dr Eric Mashimbye Lecturer- Remote sensing, geoinformatics, agronomy ericm@sun.ac.za 021 8089702
- Dr Jaco Kemp; Senior lecturer - Earth observation, synthetic aperture radar, photogrammetry jkemp@sun.ac.za 021 8089147
- Mr Kyle Loggenberg; Lecturer- GIS, earth observation, hyperspectral remote sensing, precision viticulture, crop water stress detection, proximal remote sensing (i.e. using Unmanned Aerial Systems (UAS) and terrestrial platforms) kyleloggenberg@sun.ac.za 021 8083218
- Mr Curtis Bailey ; Lecturer - spatial/statistical modelling of geographic, climatic, ecological and social phenomena. cbailey@sun.ac.za 021 8083218
- Dr Danie du Plessis; CRUISE: Urban & regional planner/ Senior lecturer- Urban planning systems, urban transformation, spatial analysis and modelling of cities and urban systems ddp@sun.ac.za 021 808 3126
- Dr Herman Geyer; CRUISE: Town & regional planner/ Lecturer- Complexity theory, urban systems, economic geography hsgeyerjr@sun.ac.za 021 8083107
- Dr Anele Horn; CRUISE: Town and regional planner/ Lecturer- Urban & regional planning, development frameworks, urban growth management / monitoring anelehorn@sun.ac.za 021 8089181
- Ms Lodene Willemse; CRUISE: Lecturer- Urban and human geographies lodene@sun.ac.za 021 808903
- Mr Divan Vermeulen; CGA: GIS & EO analyst- Object-orientated image classification vermeulend@sun.ac.za
- Prof Gustav Visser; Professor- Urban geography, tourism geography, sexuality and South African institutions and geography in higher education gvisser@sun.ac.za
- Mr Garth Stephenson; CGA: General manager, GIS & EO analyst- Mapping irrigated areas from earth observation imagery, geographic object-based image analysis, automated land cover / use classification, expert-system, ruleset classification. garth@sun.ac.za 021 8084935
- Mr Theo Pauw; CGA: Technical officer, GIS & EO analyst- Remote Sensing: GEOBIA, classification, automation, radar, photogrammetry, pre-processing. GIS: Web-based GIS, cartography theopauw@sun.ac.za 021 8083112

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

STELLENBOSCH UNIVERSITY

Geographers continued:

- Ms Jessica Eichhoff; CGA: GIS operator & social media coordinator- Cartography, digital elevation modelling
eichhoffj@sun.ac.za 021 8083112
- Ms Zani Mouton: CGA GIS & EO operator- Automated land cover/use classification; Applications of machine learning to GIS/remote sensing; Applications of GIS to agriculture; Programming and scripting; Education and teaching zanimouton@sun.ac.za 021 808 3112
- Mr Juan du Plessis; CGA GIS & EO operator - Machine learning assisted projects Water dynamics Digital soil mapping juandup@sun.ac.za 021 808 3112
- Mr James Kapp; CGA GIS & EO operator- Programming and scripting Web & App development Climate Modelling
jkapp@sun.ac.za 021 808 3112
- Ms Caley Higgs; CGA GIS & EO operator- Machine learning Remote sensing chiggs@sun.ac.za 021 808 3112
- Dr Tara Southey; CGA: Post-doctoral researcher Climate modelling in the Western Cape Building a sound climate database for the Western Cape; Climate & Grapevine modelling in the context of climate change for adaptation and mitigation; Water resource management; Integration of data sources (climate, remote sensing, terrain, plant) for improved infield decision making; Machine Learning classification: integrated data sources; Multi-temporal earth observation techniques for agricultural application; Technical Transfer of research to wine
industrytara@sun.ac.za 021 8082697

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SOCIETY OF SOUTH AFRICAN GEOGRAPHERS

STELLENBOSCH UNIVERSITY

Exciting

departmental news:

As per SAQA requirements the department was externally reviewed in 2021. The peer review panel commended the department as follow: “Overall Commendations:

- The Department seems to be functioning well, all areas teaching, research and students seem to be performing well
- It is one of the stronger departments in South Africa.
- The Department is profitable and producing a surplus of funds.
- There has been significant improvement in the department since the previous review in 2013.”

Best Honours BA student in 2021 – Ms Stephanie Askew

Best Honours Research Project in 2021 – Ms Stephanie Askew

•Best Honours BSc student in 2021 – Ms Karen Roets

Associate Prof Helen de Klerk was invited to be part of the Editorial Board of the International Peer-review journal Transactions in GIS (<https://onlinelibrary.wiley.com/page/journal/14679671/homepage/editorialboard.html>)

Dr Stephen Rule was appointed as a **Research Fellow** in the department

The department established its **Small Town Research Unit (STRU)** in 2021. The STRU specialises in a range of geographical research pertaining to small towns as well as secondary cities. At the STRU we recognise the greatness of small towns. Over the past decade a range of studies were conducted by staff in the department on small towns (mostly in the Western Cape) which include aspects on the growth potential of small towns, privatisation of public golf courses, local economic issues, small town gentrification, small town tourism development, music festivals, gated and retirement villages, second homes, and wind energy. Although the unit’s name reflects an emphasis on small towns are those towns that have over the past two decades transitioned to secondary city status also a major research focus. The unit intends to provide small town regeneration training courses to local authorities in the near future.

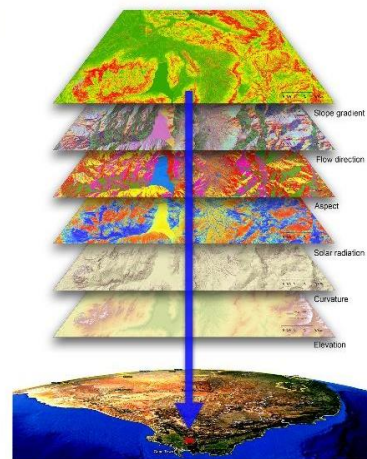
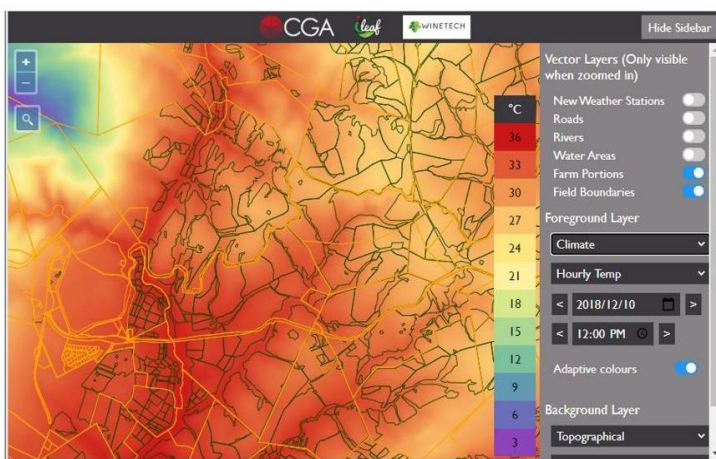
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Departmental news continued:

TERRACLIM: Terrain and Climate decision making tool



TerraClim is a climate and terrain analysis tool that offers decision making support in the context of increased seasonal variability in the Western Cape.

The South African wine industry has long been concerned about climate change. In 2018 Winetech (the industry's research funding agency) initiated the TerraClim project, with the aim of improving the understanding of potential impacts that this phenomenon may have on the industry. The flagship Winetech research grant was awarded to the Centre for Geographical Analysis (CGA), within the Department of Geography & Environmental Studies (DGES), at Stellenbosch University.

The first objective of the TerraClim project was to collate historical climate data and record climatic conditions throughout the wine-producing region. Thanks to its partnerships with private and public weather station operators, TerraClim is currently collecting climatic variables (e.g. temperature, rainfall, humidity) from more than 280 weather stations throughout the Western Cape at an hourly interval.

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Departmental news continued:

In April 2021, a consortium consisting of TerraClim, Metos SA and Pessl (Austria) was awarded a climate smart agriculture project grant, funded by the Technology Innovation Agency (TIA) and The Austrian Research Promotion Agency (FFG), to increase the weather station network by 200 new stations. GeoSmart, a spinout company of DGES, and the CGA are critical partners within this consortium (climatesmartagri.co.za). Locations for the 200 stations determined based on elevation and solar radiation models was provided to Metos SA by TerraClim. The project is also developing and implementing novel geostatistical and data science techniques to model climatic conditions for vineyards within the TerraClim region, with the resulting climate surfaces available through a user-friendly web application, www.terraclim.co.za. The climate layers are also used as input to identify areas where conditions are most variable and (based on recent climate records) most suitable for particular cultivars and varieties. The TerraClim initiative continues to spark interest from other agricultural sectors. The deciduous fruit industry is particularly interested and has (through Hortgro) supported the research since 2020. It is likely that other sectors, such as citrus and grains, will soon follow suit. Plans are afoot to substantially increase the footprint of TerraClim to other regions in South Africa and beyond.

Artwashing juxtaposed NRF project

Renowned land artists, Strijdom van der Merwe collaborated with urban geographer Ronnie Donaldson on a gentrification awareness creation exhibition. On Tuesday 5 October, twenty small white house structures were erected on the lawn between the R44 and the shopping center in Jamestown, just outside Stellenbosch. Over the ensuing days, 10 larger red painted wooden structures were erected to depict the process of gentrification. *Artwashing juxtaposed* is one of a number of exhibitions that is part of an NRF funded research project - artwashing: a multidisciplinary approach - with Donaldson as project leader. Co-project team members, Manfred Spocter (SU) and Delia Ah Goo (NWU) are working with Donaldson to write a set of policy guidelines that will be presented to the municipality on how they can assist communities and residents of gentrified neighbourhoods. As part of the broader project, various art exhibitions by, among others, art students from Stellenbosch University with the theme artwashing will be shown over the next two years and a documentary film (in collaboration with Dorette Potgieter Productions) will also be produced.



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STELLENBOSCH UNIVERSITY

2021/2022 List of publications:

- ABU I, SZANTOI S, BRINK A, ROBUCHON M, THIEL M. Detecting cocoa plantations in Côte d'Ivoire and Ghana and their implications on protected areas. *Ecological Indicators* 2021; 129:107863, 13 pages.
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DOCTORAL COMPLETED

GEYER HS. NEGOTIATING GREY SPACES: A SOUTHERNISED RELATIONAL ANALYSIS OF CUSTOMARY LAND-USE REGULATION MECHANISMS IN PERI-URBAN INFORMAL MIXED-USE DEVELOPMENTS – A CASE STUDY OF THE HELDERBERG DISTRICT IN CAPE TOWN. PhD, 2021. 276 pp. Promotor: DONALDSON SE.

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MSc and PhD graduations and supervisors:

GJ Louw; PhD Geoinformatics. *Supervisor*;
Prof van Niekerk

HS Geyer, PhD Geography & Environmental
Studies. *Supervisor*; Prof Donaldson

R Sheburah; PhD Geography &
Environmental Studies. *Supervisor*; Dr
Spocter

T Jimu; PhD Geography & Environmental
Studies *Supervisor*; Drs Williams & Spocter

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Environmental Studies *Supervisor*; Prof
Donaldson

LL Hendricks; Dr Williams; MA Geography
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Williams

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Donaldson

WD Andrews; MA Geography &
Environmental Studies. *Supervisor*; Dr
Spocter

DA Seymour; MA GIS. Supervisor; Assoc.
Prof H de Klerk

JJ Barnard; MSc Geoinformatics.
Supervisor; Assoc. Prof H de Klerk

CJ Higgs; MSc Geoinformatics. Supervisor;
Prof van Niekerk

MD Dukes; MSc Geoinformatics.
Supervisor; Dr Munch

JL Sullivan; Master's in urban & Regional
Planning. Supervisor; Ms Willemse

DA Ter Huurne; Master's in urban &
Regional Planning Supervisor; Dr du Plessis

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2021 student numbers:

<i>First year :</i>	241
<i>Second year:</i>	+ -160
<i>Third year:</i>	+ -120
<i>Honours:</i>	31
<i>Master 's:</i>	862
<i>Doctoral:</i>	41

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