CV - Carola Martens

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Education

since 02.2015	**PhD student**, Goethe University Frankfurt am Main, Germany.
	Provisional thesis title: Modelling ecosystem dynamics and carbon cycling in southern African savannahs
10.2006 – 01.2012	**Diploma in Geoecology**, Karlsruhe Institute of Technology.
	Diploma thesis: Cultural and social change in two Djerma-villages in Southwest-Niger

Work Experience

since 01.2019	**Research Assistant**, Goethe University Frankfurt am Main, Germany.
	In the <u>EMSAfrica</u> project, I work with the dynamic vegetation models (DVMs) aDGVM and aDGVM2 with a focus on Southern African vegetation changes. Using the DGVMs, I investigate uncertainties in vegetation simulation and drivers of ecosystem change. In collaboration with EMSAfrica project partners, we identify areas that require special attention in ecosystem management.
02.2018 – 12.2018	**Research Assistant**, Senckenberg Nature Research Society, Frankfurt am Main, Germany.
	I worked with the dynamic vegetation models (DVMs) aDGVM and aDGVM2 with a focus on Southern African vegetation changes and uncertainties in vegetation simulations.
02.2015 – 01.2018	**Research Assistant**, Goethe University Frankfurt am Main, Germany.
	In the scope of <u>ARS AfricaE</u> project, I worked with the dynamic vegetation models (DVMs) aDGVM and aDGVM2 with a focus on Southern African vegetation changes. I used and developed DGVMs to simulate ecosystem carbon balance and detect changes in ecosystems.
04.2013 – 03.2014	**Development Fellow**, German Agency for International Cooperation (GIZ) GmbH/tiipaalga, Ouagadougou, Burkina Faso.
	I cooperated with the local NGO tiipaalga
10.2012 – 04.2013	**Consultant**, United Nations Convention to Combat Desertification (UNCCD), Knowledge Management Science and Technology unit, Bonn.
	I supported the Ad Hoc Working Group to further discuss the options for the provision of Scientific Advice focusing on desertification/land degradation and drought issues
02.2012 – 08.2012	**Intern**, GIZ, Convention Project to Combat Desertification, Bonn.
	I researched information on topics of land degradation

Other Qualifications & Activities

IT-skills	Windows, Linux,	
	MS Office, LaTeX, SPSS,	
	ArcGIS, QGIS (basic knowledge),	
	C++, Java, R (all basic knowledge)	
Languages	German	mother tongue
	English	excellent in writing and speaking
	French	very good in writing and speaking
	Spanish	basic knowledge
Voluntary positions	Member of the main speaker team of the Senckenberg Young Scientists (06.2018-06.2020), Treasurer for the Senckenberg Young Scientists (06.2015-06.2019)	

Publications

○ **Martens C**, Hickler T, Davis-Reddy C, Engelbrecht F, Higgins SI, von Maltitz GP, Midgley GF, Pfeiffer M, Scheiter S (2020). Large uncertainties in future biome changes in Africa call for flexible climate adaptation strategies. *Global Change Biology.* https://doi.org/10.1111/gcb.15390.

○ Pfeiffer M, Kumar D, **Martens C**, Scheiter S (2020) Climate change will cause non-analogue vegetation states in Africa and commit vegetation to long-term change, *Biogeosciences*, 17: 5829–5847, https://doi.org/10.5194/bg-17-5829-2020.

○ Scheiter S, Kumar D, Corlett RT, Gaillard C, Langan L, Lapuz RS, **Martens C**, Pfeiffer M, Tomlinson KW (2020) Climate change promotes transitions to tall evergreen vegetation in tropical Asia. *Global Change Biology*, https://doi.org/10.1111/gcb.15217.

○ Kumar D, Pfeiffer M, Gaillard C, Langan L, **Martens C**, Scheiter S (2020) Misinterpretation of Asian savannas as degraded forest can mislead management and conservation policy under climate change. *Biological Conservation* 241 https://doi.org/10.1016/j.biocon.2019.108293.

○ Pfeiffer M, Langan L, Linstädter A, **Martens C**, Gaillard C, Ruppert JC, Higgins SI, Mudongo EI, Scheiter S (2019) Grazing and aridity reduce perennial grass abundance in semi-arid rangelands – Insights from a trait-based dynamic vegetation model. *Ecological Modelling*, 395 (11-22), https://doi.org/10.1016/j.ecolmodel.2018.12.013.

○ Scheiter S, Schulte J, Pfeiffer M, **Martens C**, Erasmus BFN, Twine WC (2019) How Does Climate Change Influence the Economic Value of Ecosystem Services in Savanna Rangelands? *Ecological Economics* 157 (342-356) https://doi.org/10.1016/j.ecolecon.2018.11.015.

○ Gaillard C, Langan L, Pfeiffer M, Kumar D, **Martens C**, Higgins SI, Scheiter S (2018) African shrub distribution emerges via height – sapwood conductivity trade-off. *Journal of Biogeography*, 45, 2815-2826. https://doi.org/10.1111/jbi.13447

○ Scheiter S, Gaillard C, **Martens C**, Erasmus BFN, Pfeiffer M (2018) How vulnerable are ecosystems in the Limpopo province to climate change? *South African Journal of Botany*, 116, 86–95, https://doi.org/10.1016/j.sajb.2018.02.394.

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