

PERSONAL INFORMATION

Dr Alain Tamoffo



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✉ Alain.Tamoffo@hereon.de

Sex Male | Date of birth 27/11/1989 | Nationality Cameroonian | Civil state Married

RESEARCH EXPERIENCE

- 2023 - Present **Postdoctoral researcher at GERICS**
I investigate processes associated with the diurnal cycle of precipitation over West Africa at a Convection-permitting scale
- 2021 - 2023 **Postdoctoral researcher at Kwame Nkrumah University of Science and Technology (KNUST) and visiting scientist at GERICS**
I assessed precipitation processes and their variation in regional climate projections under global warming in the Congo Basin.
- 2021 - 2024 **Climate researcher**
Researcher within the Regional Working Group of CLIVAR/GEWEX Monsoons Panel for the Central Africa
- 2016 - 2019 **Climate researcher**
LMI DYCOFAC (IRD, University of Yaoundé 1, IRGM), IRD BP1857, Yaoundé, Cameroun
I investigated how global warming will impact the Congo Basin climate system.
- 2016 - Present **Climate researcher**
Member of team CORDEX-Africa
I investigated how Regional climate Models reproduce inter-linkages between precipitation and processes responsible for their generation. Also, I investigate how these inter-linkages will react to global warming.
- 2020 - 2021 **Temporary signing officer, Physics department, University of Yaoundé: Atmospheric boundary layer, Master 1 level.**

EDUCATION AND TRAINING

- 2016 - 2021 **PhD. Dissertation in Atmospheric Physics**
University of Yaounde I, Yaoundé, Cameroon
Thesis: Implications of global warming levels of 1.5°C and 2.0°C in the Congo Basin: Assessment of RCA4 Regional Climate Model

2013 - 2015 [Master degree in Atmospheric Physics](#)
 University of Yaounde I, Yaoundé, Cameroon
Thesis: Daily characteristics of Central African rainfall in REMO model

2010 - 2012 [Bachelor degree in Applied Physics](#)
 University of Yaounde I, Yaoundé, Cameroon
Applied Physics

2009 [High School diploma](#)
 Mbouda High School / Cameroon
Life and Earth Sciences - Physics, Chemistry, Mathematics

PERSONAL SKILLS

Mother tongue **French**

Further languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	Intermediate	Intermediate	Intermediate	Intermediate	Intermediate
German	A2	A2	A2	A2	A2

[Communication skills](#) good communication skills gained through my experience as teacher at High school and University (University of Yaoundé I).

[Organisational / managerial skills](#) leadership (during investigations of impacts of global warming at 1.5°C and 2°C levels over the Congo Basin climate, 17 peoples)

MENTORING OF MASTER AND PhD STUDENTS (ONGOING/COMPLETED WITH WORKING TITLES)

Subject titles

Kevin Kenfack (2020-present) Modulating effects of the hydrological cycle in the Congo Basin: characterisation of dynamic versus thermodynamic contributions under global warming

Hermann N. Nana (2020-present) Seasonal Forecasts in Central Africa: Identification of Key Predictability Sources and Evaluation of NMME Models

Dorcasi Daniella Ebedi Nding (Completed) Projected changes in extreme precipitation and temperature events over Central Africa inferred from CMIP6 models

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Independent user	Proficient user	Proficient user	Independent user	Proficient user

-Good knowledge of weather and climate observation software under LINUX/UNIX environment such as:

- NCL (NCAR Command Language);
- CDO (Climate Data Operators);
- R
- NCView;
- NCO (NetCDF Operators);
- Shell code
- Running of a land model (ICTP CHyM hydrological model)
- Running of an Atmospheric model (RegCM5)
- Good knowledge of NetCDF and ASCII file systems
- Basic knowledge of languages and programming software such as: Python, R, Fortran 90 (A Programming Environment for Data Analysis and Graphics).
- Knowledge of Microsoft Office™ software (Word™, Excel™ and PowerPoint™), Libre Office (Presentation) and LATEX.

Advisory boards
Reviews for international journals

Review Editor for Frontiers in Environmental Science

- Earth and Space Science
- Geophysical Research Letters
- Climate Dynamics
- Journal of Climate
- International journal of climatology
- Scientific Report

Presentations
Conferences
Seminars

- From 17 to 20 May 2016, presentation of a poster at the “**International Conference on Regional Climate, ICRC CORDEX 2016**” at Stockholm, Sweden (Certified).
- From 06 to 11 May 2018, poster presentation at the “**8th GEWEX Open Science Conference, Extremes and Water on the Edge**”, in Canmore, Canada.
- From 12 to 14 November 2018, presentation of a poster at the “**AMMA-CATCH**” conference: “**Enjeux et Actualités des Observatoires de la Zone Critique en Afrique**” at Niamey, Niger (Certified).
- From May 26 to June 7 2019, oral presentation at the “**Fifth Workshop on**

Water Resources in Developing Countries: Hydroclimate Modeling and Analysis Tools” at ICTP, Trieste, Italy (Certified).

- From 17 to 28 June 2019, oral presentation at “**The 9th ODC training course on climate dynamics and air-sea interactions**” at Qingdao, China (Certified).
- From 14 to 18 October 2019, poster presentation at the “**International Conference on Regional Climate, ICRC CORDEX 2019, Beijing, China**”
- From 25 to 29 September 2023, poster presentation at the “**International Conference on Regional Climate, ICRC CORDEX 2023, ICTP, Trieste, Italy**” (Certified).
- From 02 to 06 October 2023, attendance in the “**11th Workshop on the Theory and Use of Regional Climate Models**” at ICTP, Trieste, Italy (Certified).

Publications

2019

P1: Alain T. Tamoffo, Vondou DA, Pokam WM, Haensler A, Yepdo ZD, Fotso-Nguemo TC, Tchotchou LAD, Nouayou R (2019) Daily characteristics of central african rainfall in the remo model. *Theoretical and Applied Climatology* DOI [10.1007/s00704-018-2745-5](https://doi.org/10.1007/s00704-018-2745-5)

P2: Alain T. Tamoffo, Wilfran Moufouma-Okia, Alessandro Dosio, Rachel James, Wilfried M. Pokam, Derbetini A. Vondou, Thierry C. Fotso-Nguemo, Guy Merlin Guenang, Pierre H. Kamsu-Tamo, Grigory Nikulin, Georges-Noel Longandjo, Christopher J. Lennard, Jean-Pierre Bell, Roland R. Takong, Andreas Haensler, Lucie A. Djiotang Tchotchou, Robert Nouayou (2019) Process-oriented assessment of RCA4 regional climate model projections over the Congo Basin under 1.5°C and 2°C global warming levels: Influence of regional moisture fluxes. *Climate Dynamic*: DOI: [10.1007/s00382-019-04751-y](https://doi.org/10.1007/s00382-019-04751-y)).

P3: Guenang GM, Komkoua MAJ, Pokam MW, Tanessong RS, Tchakoutio SA, Vondou A, **Tamoffo AT**, Djiotang L, Yepdo Z, Mkankam KF (2019) Sensitivity of spi to distribution functions and correlation between its values at different time scales in central africa. *Earth Systems and Environment* DOI [10.1007/s41748-019-00102-3](https://doi.org/10.1007/s41748-019-00102-3), URL <https://doi.org/10.1007/s41748-019-00102-3>

2020

P4: Alessandro Dosio, Andrew Turner, **Alain T. Tamoffo**, Mohamed Bamba Sylla, Christopher Lennard, Richard Jones, Lauernt Terray, Grigory Nikulin, Bruce Hewitson (2020). A tale of two futures: contrasting scenarios of future precipitation for West Africa from an ensemble of Regional Climate Models. *Environmental Research Letters*. doi: [10.1088/1748-9326/ab7fde](https://doi.org/10.1088/1748-9326/ab7fde)

P5: Alain T. Tamoffo, Alessandro Dosio, Derbetini A. Vondou, Denis Sonkoué (2020) Process-Based Analysis of the Added Value of Dynamical Downscaling Over Central Africa. *Geophysical Research Letters*. DOI [10.1029/2020GL089702](https://doi.org/10.1029/2020GL089702)

2021

P6: Alain T. Tamoffo · Grigory Nikulin · Derbetini A. Vondou · Alessandro Dosio · Robert Nouayou5 · Minchao Wu · Pascal M. Igri, (2021) Process-based assessment of the impact of reduced turbulent mixing on Congo Basin precipitation in the RCA4 Regional Climate Model. *Climate Dynamic* DOI:[10.1007/s00382-020-05571-1](https://doi.org/10.1007/s00382-020-05571-1)

P7: Dosio, A., Jury, M. W., Almazroui, M., Ashfaq, M., Diallo, I., Engelbrecht, F. A., . . . Tamoffo, A. T. (2021a). Projected future daily characteristics of African precipitation based on global (CMIP5, CMIP6) and regional (CORDEX, CORDEX-CORE) climate models. *Climate Dynamics*. doi:[10.1007/s00382-021-05859-w](https://doi.org/10.1007/s00382-021-05859-w)

P8: Tamoffo, A. T., L.K. Amekudzi, T. Weber, D. A. Vondou, E. I. Yamba, D. Jacob (2021b). Mechanisms of Rainfall Biases in two CORDEX-CORE Regional Climate Models at rainfall peaks over Central Equatorial Africa. *Journal of Climate* doi.org/[10.1175/JCLI-D-21-0487.1](https://doi.org/10.1175/JCLI-D-21-0487.1)

2022

P9: Mbouna, A. D., Tamoffo, A. T., Asare, E. O., Lenouo, A., & Tchawoua, C. (2022). Malaria metrics distribution under global warming: Assessment of the VECTRI malaria model over Cameroon. *International Journal of Biometeorology*, 67(1), 93–105. <https://doi.org/10.1007/s00484-022-02388-x>

P10: Tamoffo, A. T., Dosio, A., Amekudzi, L. K., & Weber, T. (2022). Process-oriented evaluation of the West African Monsoon system in CORDEX-CORE regional climate models. *Climate Dynamics*, 60(9–10), 3187–3210. <https://doi.org/10.1007/s00382-022-06502-y>

2023

P11: Tamoffo, A. T., Akinsanola, A. A., & Weber, T. (2023). Understanding the diversity of the West African monsoon system change projected by CORDEX-CORE regional climate models. *Climate Dynamics*, 61(5–6), 2395–2419. <https://doi.org/10.1007/s00382-023-06690-1>

P12: Tamoffo, A. T., Weber, T., Akinsanola, A. A., & Vondou, D. A. (2023). Projected changes in extreme rainfall and temperature events and possible implications for Cameroon's socio-economic sectors. *Meteorological Applications*, 30(2). <https://doi.org/10.1002/met.2119>

P13: Nana, H. N., Tanessong, R. S., Tchotchou, L. A. D., Tamoffo, A. T., Moihamette, F., & Vondou, D. A. (2023). Influence of strong South Atlantic

Ocean Dipole on the Central African rainfall's system. *Climate Dynamics*. <https://doi.org/10.1007/s00382-023-06892-7>

P14: Kenfack, K., **Tamoffo, A. T.**, Djiotang Tchotchou, L. A., & Vondou, D. A. (2023). Assessment of uncertainties in reanalysis datasets in reproducing thermodynamic mechanisms in the moisture budget's provision in the Congo Basin. *Theoretical and Applied Climatology*. <https://doi.org/10.1007/s00704-023-04576-0>

P15: **Tamoffo, A. T.**, Dosio, A., Weber, T., & Vondou, D. A. (2023). Dynamic and thermodynamic contributions to late 21st century projected rainfall change in the congo basin: Impact of a regional climate model's formulation. *Atmosphere*, *14*(12), 1808. <https://doi.org/10.3390/atmos14121808>

2024

P16: **Tamoffo, A. T.**, Weber, T., Cabos, W., Sein, D. V., Dosio, A., Rechid, D., ... Jacob, D. (2024a). Mechanisms of added value of a coupled global ocean-regional atmosphere climate model over central equatorial africa. *Journal of Geophysical Research: Atmospheres*, *129*(3). <https://doi.org/10.1029/2023jd039385>

P17: Kenfack, K., **Tamoffo, A. T.**, Tchotchou, L. A. D., Marra, F., Kaissassou, S., Nana, H. N., & Vondou, D. A. (2024). Processes behind the decrease in Congo Basin precipitation during the rainy seasons inferred from ERA-5 reanalysis. *International Journal of Climatology*, *44*(5), 1778–1799. <https://doi.org/10.1002/joc.8410>

P18: Nana, H. N., **Tamoffo, A. T.**, Kaissassou, S., Djiotang Tchotchou, L. A., Tanessong, R. S., Kamsu-Tamo, P. H., ... Vondou, D. A. (2024). Performance-based evaluation of NMME and C3S models in forecasting the June–August Central African rainfall under the influence of the South Atlantic Ocean Dipole. *International Journal of Climatology*. <https://doi.org/10.1002/joc.8463>

P19: **Tamoffo, A. T.**, Weber, T., Cabos, W., Monerie, P.-A., Cook, K. H., Sein, D. V., ... Jacob, D. (2024b). West african monsoon system's responses to global ocean-regional atmosphere coupling. *Journal of Climate*. <https://doi.org/10.1175/jcli-d-23-0749.1>

P20: Mouassom, L. F., **Tamoffo, A. T.** (2024). Understanding the environmental conditions of the extreme precipitation event on June 20, 2015, in the city of Douala, Cameroon. *Natural Hazards* <https://doi.org/10.1007/s11069-024-06681-3>

P21: Ebedi-Nding, D. D., **Tamoffo, A. T.** Mouassom, L. F., (2024). Extremes Events and Socio-Economic Impacts in Central Africa: A CMIP6-Based Analysis of Projections. *Modeling Earth Systems and Environment*
<https://doi.org/10.1007/s40808-024-02139-4>

Honours and awards

- ✓ **From 2010 to 2021: Head of State's Award for Academic Excellence**
- ✓ **From February 2021 to January 2023: DAAD ClimapAfrica Fellowship**
- ✓ **From May 2023 to April 2025: Alexander von Humboldt Research Fellowship**

REFEREES

- Dr Torsten Weber, Senior Researcher at Climate Service Center Germany (GERICS) / Helmholtz-Zentrum Hereon Hamburg-Altstadt, Germany
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- Alessandro Dosio, Ph.D., Senior Scientific Officer, European Commission, Joint Research Centre Directorate for Energy, Transport and Climate
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