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RESEARCH

Areas: Ecology, Evolution, Behavior and Systematics · Global and Planetary Change · Water Science and Technology · Environmental Engineering · Soil Science · Plant Science

RESEARCH SUMMARY

54	1,085	21	33	2.97	22%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 54 publications listed below, 2006–2026. Field-weighted impact is the mean over the 54 works scored for it; 1.00 is the world average for works of the same field, type and year. 12 of the 54 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Kwame Nkrumah University of Science and Technology College of Engineering
Kumasi, Ghana

PUBLICATIONS

Journal articles 50

1. Ruddy Afriyie, Enoch Bessah, Emmanuel M. N. A. N. Attoh, Ishmeal Amoah, Andrews Afrifa, Willem A. Landman, Wilson A. Agyare, **Sampson K. Agodzo** (2026). Climate information services and farm-level decision-making in the Pra River Basin of Ghana. *Discover Environment*. https://doi.org/10.1007/s44274-026-00655-x
2. Afi Amen Christèle Attiogbé, **Sampson K. Agodzo**, Seyni Salack, Enoch Bessah, Essi Nadège Parkoo, Udo Nehren, Emmanuel Quansah (2026). Drought-induced Risks for Future Cocoa Production in the Ghana-Togo Transboundary Region. *Earth Systems and Environment*. https://doi.org/10.1007/s41748-026-01329-7
3. Afi Amen Christèle Attiogbé, Udo Nehren, **Sampson K. Agodzo**, Emmanuel Quansah, Enoch Bessah, Seyni Salack, Essi Nadège Parkoo, Jean Mianikpo Sogbedji (2026). Soil Fertility Status and Its Implications for Sustainable Cocoa Cultivation in Ghana and Togo. *Land*. https://doi.org/10.3390/land15010127
4. Charles Lamoussa Sanou, **Sampson Kwaku Agodzo**, Larba Hubert Balima, Enoch Bessah, Philip Antwi-Agyei, Karim Traoré (2025). Influence of climate change on livestock diseases occurrence in Burkina faso, West Africa. *International Journal of Biometeorology*. https://doi.org/10.1007/s00484-025-03041-z
5. Afi Amen Christèle Attiogbé, Enoch Bessah, Emmanuel Quansah, Udo Nehren, **Sampson K. Agodzo** (2025). Spatial analysis of drought vulnerability in cocoa agroforestry systems across the Ghana-Togo border. *Geomatics Natural Hazards and Risk*. https://doi.org/10.1080/19475705.2025.2467406
6. Charles Lamoussa Sanou, Oblé Neya, **Sampson Kwaku Agodzo**, Enoch Bessah, Philip Antwi-Agyei, Larba Hubert Balima (2025). Woody species diversity and aboveground carbon stocks in agroforestry systems in Burkina Faso. *Discover Sustainability*. https://doi.org/10.1007/s43621-025-00868-9
7. Afi Amen Christèle Attiogbé, Udo Nehren, Emmanuel Quansah, Enoch Bessah, Seyni Salack, Jean Mianikpo Sogbedji, **Sampson K. Agodzo** (2024). Cocoa Farmers' Perceptions of Drought and Adaptive Strategies in the Ghana–Togo Transboundary Cocoa Belt. *Land*. https://doi.org/10.3390/land13111737

8. A. Barrie, **S.K. Agodzo**, R. Frazer-Williams, E. Awuah, E. Bessah (2023). A multivariate statistical approach and water quality index for water quality assessment for the Rokel river in Sierra Leone. *Heliyon*. https://doi.org/10.1016/j.heliyon.2023.e16196

9. **Sampson K. Agodzo**, Enoch Bessah, Mexoese Nyatuame (2023). A review of the water resources of Ghana in a changing climate and anthropogenic stresses. *Frontiers in Water*. https://doi.org/10.3389/frwa.2022.973825

10. Charles Lamoussa Sanou, **Sampson Kwaku Agodzo**, Enoch Bessah, Philip Antwi-Agyei (2023). Assessing crop–livestock water productivity in mixed-farming systems across climatic zones of Burkina Faso. *Water Practice & Technology*. https://doi.org/10.2166/wpt.2023.162

11. Mexoese Nyatuame, **Sampson Agodzo**, Leonard Kofitse Amekudzi, Bismark Mensah-Brako (2023). Assessment of past and future land use/cover change over Tordzie watershed in Ghana. *Frontiers in Environmental Science*. https://doi.org/10.3389/fenvs.2023.1139264

12. Daniel Kwawuvi, Daouda Mama, **Sampson K. Agodzo**, Enoch Bessah, Gnibga Issoufou Yangouliba, Wisdom S. Aklamati (2023). Potential consequences for rising temperature trends in the Oti River Basin, West Africa. *Frontiers in Climate*. https://doi.org/10.3389/fclim.2023.1184050

13. Charles Lamoussa Sanou, Oblé Neya, **Sampson Kwaku Agodzo**, Philip Antwi-Agyei, Enoch Bessah, Mahamadou Belem, Larba Hubert Balima (2023). Trends and impacts of climate change on crop production in Burkina Faso. *Journal of Water and Climate Change*. https://doi.org/10.2166/wcc.2023.137

14. Daniel Kwawuvi, Daouda Mama, **Sampson K. Agodzo**, Andreas Hartmann, Isaac Larbi, Enoch Bessah, Tesfalem Abraham, Sam-Quarcoo Dotse, Andrew Manoba Limantol (2022). An investigation into the future changes in rainfall onset, cessation and length of rainy season in the Oti River Basin, West Africa. *Modeling Earth Systems and Environment*. https://doi.org/10.1007/s40808-022-01410-w

15. Mexoese Nyatuame, **Sampson Kwaku Agodzo**, Leonard Kofitse Amekudzi (2022). Analysis of rainfall and temperature trend and variability of the Tordzie Watershed. *Ghana Journal of Science Technology and Development*. https://doi.org/10.47881/271.967x

16. Quentin Fiacre Togbévi, Martine van der Ploeg, Kéhounbiova Audrey Tohoun, **Sampson K. Agodzo**, Kwasi Preko (2022). Assessing the Effects of Anthropogenic Land Use on Soil Infiltration Rate in a Tropical West African Watershed (Ouriyori, Benin). *Applied and Environmental Soil Science*. https://doi.org/10.1155/2022/8565571

17. Enoch Bessah, Emmanuel Donkor, Abdulganiy O. Raji, Olalekan J. Taiwo, Olusola O. Ololade, Alexandre Strapasson, Shadrack K. Amponsah, **Sampson K. Agodzo** (2022). Factors affecting farmers' decision to harvest rainwater for maize production in Ghana. *Frontiers in Water*. https://doi.org/10.3389/frwa.2022.966966

18. Daniel Kwawuvi, Daouda Mama, **Sampson K. Agodzo**, Andreas Hartmann, Isaac Larbi, Enoch Bessah, Andrew Manoba Limantol, Sam-Quarcoo Dotse, Gnibga Issoufou Yangouliba (2022). Spatiotemporal variability and change in rainfall in the Oti River Basin, West Africa. *Journal of Water and Climate Change*. https://doi.org/10.2166/wcc.2022.368

19. Enoch Bessah, Abdulganiy O. Raji, Olalekan J. Taiwo, **Sampson K. Agodzo**, Olusola O. Ololade, Alexandre Strapasson, Emmanuel Donkor (2021). Assessment of surface waters and pollution impacts in Southern Ghana. *Hydrology research*. https://doi.org/10.2166/nh.2021.051

20. Enoch Bessah, AbdulGaniy Olayinka Raji, Olalekan John Taiwo, **Sampson Kwaku Agodzo**, Olusola Oluwayemisi Ololade, Alexandre Strapasson, Emmanuel Donkor (2021). Gender-based variations in the perception of climate change impact, vulnerability and adaptation strategies in the Pra River Basin of Ghana. *International Journal of Climate Change Strategies and Management*. https://doi.org/10.1108/ijccsm-02-2020-0018

21. Enoch Bessah, Emmanuel A. Boakye, **Sampson K. Agodzo**, Emmanuel Nyadzi, Isaac Larbi, Alfred Awotwi (2021). Increased seasonal rainfall in the twenty-first century over Ghana and its potential implications for agriculture productivity. *Environment Development and Sustainability*. https://doi.org/10.1007/s10668-020-01171-5

22. Mexoese Nyatuame, Leonard Kofitse Amekudzi, **Sampson Kwaku Agodzo** (2020). Assessing the land use/

land cover and climate change impact on water balance on Tordzie watershed. *Remote Sensing Applications Society and Environment*. https://doi.org/10.1016/j.rsase.2020.100381

23. Biola K. Badmos, Grace B. Villamor, **Sampson K. Agodzo**, Samuel N. Odai (2020). Evaluating the impact of an agricultural land-use change adaptation strategy on household crop production in semi-arid Ghana. *Singapore Journal of Tropical Geography*. https://doi.org/10.1111/sjtg.12351
24. Ebrima Sonko, Wojciech J. Florkowski, **Sampson Agodzo**, Philip Antwi-Agyei (2020). Subsistence farmer knowledge of strategies alleviating food insecurity in the context of climate change in the lower river region of the Gambia. *Food Security*. https://doi.org/10.1007/s12571-020-01024-z
25. Ebrima Sonko, **Sampson K. Agodzo**, Philip Antwi-Agyei (2019). Evaluating the Yield Response of Maize (Zea mays L.) and Rice (Oryza sativa L.) to Future Climate Variability in The Gambia. *Journal of Agricultural Studies*. https://doi.org/10.5296/jas.v7i2.14664
26. Joseph Stephen Sarpong, **Sampson Kwaku Agodzo**, Geophrey Kwame Anornu, Shinji Hirouchi (2019). Flow Measurement for Ungauged Kakayini and Kodadwen Streams in Support of Local Rice Production in the Ashanti Region of Ghana. *International Journal of Innovative Science and Research Technology (IJISRT)*. https://doi.org/10.38124/ijisrt/19feb88
27. Enoch Bessah, Abdulganiy O. Raji, Olalekan J. Taiwo, **Sampson K. Agodzo**, Olusola O. Ololade, Alexandre Strapasson (2019). Hydrological responses to climate and land use changes: The paradox of regional and local climate effect in the Pra River Basin of Ghana. *Journal of Hydrology Regional Studies*. https://doi.org/10.1016/j.ejrh.2019.100654
28. M. Anim-Gyampo, G.K. Anornu, E.K. Appiah-Adjei, **S.K. Agodzo** (2019). Quality and health risk assessment of shallow groundwater aquifers within the Atankwidi basin of Ghana. *Groundwater for Sustainable Development*. https://doi.org/10.1016/j.gsd.2019.100217
29. Enoch Bessah, Abdulganiy O. Raji, Olalekan J. Taiwo, **Sampson K. Agodzo**, Olusola O. Ololade (2019). The impact of varying spatial resolution of climate models on future rainfall simulations in the Pra River Basin (Ghana). *Journal of Water and Climate Change*. https://doi.org/10.2166/wcc.2019.258
30. M. Anim-Gyampo, G. K. Anornu, **S. K. Agodzo**, E. K. Appiah-Adjei (2018). Groundwater Risk Assessment of Shallow Aquifers within the Atankwidi Basin of Northeastern Ghana. *Earth Systems and Environment*. https://doi.org/10.1007/s41748-018-0077-3
31. M. Anim-Gyampo, G. K. Anornu, E. K. Appiah-Adjei, **S. K. Agodzo** (2018). Hydrogeochemical evolution and quality assessment of groundwater within the Atankwidi basin: the case of northeastern Ghana. *Arabian Journal of Geosciences*. https://doi.org/10.1007/s12517-018-3753-6
32. Biola K. Badmos, Grace B. Villamor, **Sampson K. Agodzo**, Samuel N. Odai, Olabisi S. Badmos (2018). Local level impacts of climatic and non-climatic factors on agriculture and agricultural land-use dynamic in rural northern Ghana. *Singapore Journal of Tropical Geography*. https://doi.org/10.1111/sjtg.12236
33. Badabate Diwediga, Quang Bao Le, **Sampson K. Agodzo**, Lulseged D. Tamene, Kperkouma Wala (2018). Modelling soil erosion response to sustainable landscape management scenarios in the Mo River Basin (Togo, West Africa). *The Science of The Total Environment*. https://doi.org/10.1016/j.scitotenv.2017.12.228
34. Mexoese Nyatuame, **Sampson K. Agodzo** (2018). Stochastic ARIMA model for annual rainfall and maximum temperature forecasting over Tordzie watershed in Ghana. *Journal of Water and Land Development*. https://doi.org/10.2478/jwld-2018-0032
35. Enoch Bessah, Abdullahi Bala, **Sampson Kweku Agodzo**, Appollonia Aimiosino Okhimamhe, Emmanuel Amoah Boakye, Saratu Usman Ibrahim (2018). The impact of crop farmers' decisions on future land use, land cover changes in Kintampo North Municipality of Ghana. *International Journal of Climate Change Strategies and Management*. https://doi.org/10.1108/ijccsm-05-2017-0114
36. Enoch Bessah, Abdulganiy O. Raji, Olalekan J. Taiwo, **Sampson K. Agodzo**, Olusola O. Ololade (2018). Variable resolution modeling of near future mean temperature changes in the dry sub-humid region of Ghana. *Modeling Earth Systems and Environment*. https://doi.org/10.1007/s40808-018-0479-0
37. Mexoese Nyatuame, **Sampson Agodzo** (2017). Analysis of Extreme Rainfall Events (Drought and Flood) over Tordzie Watershed in the Volta Region of Ghana. *Journal of Geoscience and Environment Protection*.

https://doi.org/10.4236/gep.2017.59019

38. Badabate Diwediga, **Sampson Agodzo**, Kperkouma Wala, Quang Bao Le (2017). Assessment of multifunctional landscapes dynamics in the mountainous basin of the Mo River (Togo, West Africa). *Journal of Geographical Sciences*. https://doi.org/10.1007/s11442-017-1394-4

39. Biola K. Badmos, Ademola A. Adenle, **Sampson K. Agodzo**, Grace B. Villamor, Daniel K. Asare-Kyei, Laouali M. Amadou, Samuel N. Odai (2017). Micro-level social vulnerability assessment towards climate change adaptation in semi-arid Ghana, West Africa. *Environment Development and Sustainability*. https://doi.org/10.1007/s10668-017-9988-7

40. Sani Dauda Ahmed, **Sampson Kwaku Agodzo**, Kwaku Amaning Adjei, Maxwell Deinmodei, Vivien Chikogu Ameso (2017). Preliminary investigation of flooding problems and the occurrence of kidney disease around Hadejia-Nguru wetlands, Nigeria and the need for an ecohydrology solution. *Ecohydrology & Hydrobiology*. https://doi.org/10.1016/j.ecohyd.2017.11.005

41. Samuel N.A. Nettey, **Sampson K. Agodzo**, Simon Cudjoe Fialor, W. Marx, D. K. Asare, H. M. Amoatey, Godwin Amenorpe, S. Djanmah (2017). The Impact of Irrigation on The Reproductive Growth Parameters of Mango In A Coastal Savannah Agro-Ecological Zone of Ghana.

42. Enoch Bessah, Abdullahi Bala, **Sampson K. Agodzo**, Appollonia A. Okhimamhe (2016). Dynamics of soil organic carbon stocks in the Guinea savanna and transition agro-ecology under different land-use systems in Ghana. *Cogent Geoscience*. https://doi.org/10.1080/23312041.2016.1140319

43. Badabate Diwediga, Quang Bao Le, **Sampson Agodzo**, Kperkouma Wala (2016). Potential storages and drivers of soil organic carbon and total nitrogen across river basin landscape: The case of Mo river basin (Togo) in West Africa. *Ecological Engineering*. https://doi.org/10.1016/j.ecoleng.2016.11.055

44. Biola Badmos, **Sampson Agodzo**, Grace Villamor, Samuel Odai (2015). An Approach for Simulating Soil Loss from an Agro-Ecosystem Using Multi-Agent Simulation: A Case Study for Semi-Arid Ghana. *Land*. https://doi.org/10.3390/land4030607

45. Biola K. Badmos, Grace B. Villamor, **Sampson K. Agodzo**, Samuel N. Odai, Samuel S. Guug (2014). Examining Agricultural Land-use/Cover Change Options in Rural Northern Ghana: A Participatory Scenario Exploration Exercise Approach. *The International Journal of Interdisciplinary Environmental Studies*. https://doi.org/10.18848/2329-1621/cgp/v08i02/15-35

46. Biola K Badmos, Villamor, Grace B, **Sampson K Agodzo**, Odai, Samuel N (2014). MULTI-AGENT SIMULATION APPROACH ON THE IMPACT OF AGRICULTURAL LAND-USE CHANGE ADAPTATION STRATEGY (FARM CREDIT) ON FARM HOUSEHOLD LIVELIHOOD IN SEMI-ARID GHANA. https://doi.org/10.13140/2.1.3744.8001

47. Emmanuel Obuobie, Deborah Ofori, **Sampson Kwaku Agodzo**, Collins Okrah (2013). Groundwater potential for dry-season irrigation in north-eastern Ghana. *Water International*. https://doi.org/10.1080/02508060.2013.814212

48. Emmanuel Obuobie, Bernd Diekkrueger, William Agyekum, **Sampson Agodzo** (2012). Groundwater level monitoring and recharge estimation in the White Volta River basin of Ghana. *Journal of African Earth Sciences*. https://doi.org/10.1016/j.jafrearsci.2012.06.005

49. Eli Afetsi Gaveh, Gladys M. Timpo, **Sampson K. Agodzo**, Dong Hyung Shin (2011). Effect of irrigation, transplant age and season on growth, yield and irrigation water use efficiency of the African eggplant. *Horticulture Environment and Biotechnology*. https://doi.org/10.1007/s13580-011-0054-3

50. Emmanuel Y.H. Bobobee, Kofi Sraku-Lartey, Simon C. Fialor, Emmanuel A. Canacoo, **Sampson K. Agodzo**, Albert Yawson, Girma Gebresenbet (2006). Wear rate of animal-drawn ploughshares in selected Ghanaian soils. *Soil and Tillage Research*. https://doi.org/10.1016/j.still.2006.05.004

Book chapters 3

1. Enoch Bessah, Emmanuel Donkor, Abdulganiy O. Raji, Olalekan J. Taiwo, **Sampson K. Agodzo**, Olusola O. Ololade, Alexandre Strapasson (2021). Determinants of Maize Farmers' Access to Climate Information Services in Ghana. https://doi.org/10.1007/978-3-030-22759-3_316-1
2. Maxwell Anim-Gyampo, Belinda Seyram Berdie, Enoch Bessah, **Sampson Kwaku Agodzo** (2021). Effects of Illegal Artisanal Gold Mining Operations on Groundwater Quality in Ghana: The Case of Ahafo-Ano South District. *IntechOpen eBooks*. https://doi.org/10.5772/intechopen.100242
3. Sani Dauda Ahmed, **Sampson Kwaku Agodzo**, Kwaku Amaning Adjei (2020). Designing River Diversion Constructed Wetland for Water Quality Improvement. *IntechOpen eBooks*. https://doi.org/10.5772/intechopen.92119

Conference papers 1

1. Maxwell Anim-Gyampo, Geoffrey K. Anornu, **Sampson K. Agodzo**, Emmanuel K. Appiah-Adjei (2019). Groundwater Risk Assessment for Shallow Aquifers within the Atankwidi Basin of (Ghana). *Advances in Science, Technology & Innovation/Advances in science, technology & innovation*. https://doi.org/10.1007/978-3-030-01572-5_67