Benjamin K. Nyarko

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RESEARCH

Interests	Landscape Dynamic · Risk Profiling · Hydrology · Geospatial Application · Climate Change
Areas	Global and Planetary Change · Ecology · Pollution · Ecology, Evolution, Behavior and Systematics · Water Science and Technology · Environmental Engineering

RESEARCH SUMMARY

54	887	17	21	2.45	28%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 54 publications listed below, 1999–2026. Field-weighted impact is the mean over the 39 works scored for it; 1.00 is the world average for works of the same field, type and year. 11 of the 39 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Associate Professor 2001–present
Geography & Regional Planning, University of Cape Coast Faculty of Social Sciences, Cape Coast, Ghana

EDUCATION AND QUALIFICATIONS

Dr. rer. nat 2003–2007
Center for Dvelopment Research, University of Bonn, Bonn, Germany

PUBLICATIONS

Journal articles 47

1. Kow Ahor Essel-Yorke, Theophilus Ansah-Narh, Pınar Pamukçu Albers, Joseph Bremang Tandoh, **Benjamin Kofi Nyarko** (2026). Forward temporal forecasting of land-cover transitions from multispectral observations in mining-influenced zones of the Pra River Basin, Ghana: A spatial panel learning approach. *Remote Sensing Applications Society and Environment*. https://doi.org/10.1016/j.rsase.2026.102240
2. Caradee Y. Wright, Anelisa Jaca, Thandi Kapwata, Natasha Naidoo, Babatunde Awokola, Engineer Bainomugisha, Kiros Berhane, Suzana Blesic, Anderson Gwanyebit Kehbila, Rajen N. Naidoo, Bono Nemukula, **Benjamin Kofi Nyarko**, Akinkunmi Okekunle, Tolu Oni, Reginald Quansah, Sokhna Thiam, Ibrahim Sidi Zakari, Negussie Beyene, Candice Webster (2026). Leveraging data science to uncover solutions to air pollution-related adverse health outcomes in Africa: policy advice and recommendations. *Environmental Development*. https://doi.org/10.1016/j.envdev.2026.101517
3. Emmanuel Acheampong, A Koomson, **Benjamin Nyarko** (2026). Mangrove forest degradation can dramatically alter macroinfaunal community composition and functioning. *Marine Ecology Progress Series*. https://www.int-res.com/journals/meps/articles/meps15115
4. Geslaine R.L. Gonçalves, Bernadette Snow, Gifty Wiredu, Pearl K. Koka Abima, Curtis Gray Amoako, Albert Koomson, **Benjamin Kofi Nyarko**, Georgina Yaa Oduro, John Windie Ansah, Bhavani E. Narayanaswamy (2026). Shedding secrets: Are hair extensions a plastic pollutant hidden in plain sight? *Journal of Hazardous Materials Plastics*. https://doi.org/10.1016/j.hazmp.2026.100050

5. Caradee Y. Wright, Anelisa Jaca, Thandi Kapwata, Natasha Naidoo, Babatunde Awokola, Engineer Bainomugisha, Kiros Berhane, Suzana Blesic, Anderson Gwanyebit Kehbila, Rajen N. Naidoo, Bono Nemukula, **Benjamin Kofi Nyarko**, Akinkunmi Paul Okekunle, Tolu Oni, Reginald Qunasah, Sokhna Thiam, Ibrahim Sidi Zakari, Negussie Beyene, Emile R. Chimusa, Candice Webster (2026). Using data science to identify climate change and health adverse impacts and solutions in Africa: a scoping review. *npj Health Systems*. https://doi.org/10.1038/s44401-025-00057-w

6. Christian Kwesi Owusu, Mohammed Suhyb Salama, **Benjamin Kofi Nyarko**, Mujeeb Rahman Nuhu (2025). Estimation of Chlorophyll-a from Case-2 Inland Waters: Comparing Two Analytical Algorithms. *Earth Science Research*. https://doi.org/10.5539/esr.v15n1p1

7. Fiifi Amoako Johnson, Philip-Neri Jayson-Quashigah, Duncan Hornby, Chris Hill, Mumuni Abu, Kwasi Appeaning Addo, **Benjamin Kofi Nyarko**, Samuel Nii Ardey Codjoe, Cynthia Addoquaye Tagoe, Craig William Hutton, Sabu Padmadas (2025). Mapping socio-environmentally vulnerable hotspots in the Volta Delta of Ghana. *PLoS ONE*. https://doi.org/10.1371/journal.pone.0322453

8. Geslaine Rafaela Lemos Gonçalves, Curtis Grey, Albert Koomson, Joseph Aggrey-Fynn, **Benjamin Kofi Nyarko**, Bhavani Emma Narayanaswamy (2025). Patterns and implications of plastic accumulation in mangrove ecosystems and sandy beaches in Western and Central regions of Ghana, West Africa. *Environmental Science and Pollution Research*. https://doi.org/10.1007/s11356-025-36359-7

9. Kofi Asare, **Benjamin Kofi Nyarko**, Nana Ama Browne Klutse, Theophilus Ansah-Narh, Richard Damoah, Hubert Azoda Koffi (2025). Quantifying the Influence of Remote Climate Indices on Key Climate Variables in Northern Ghana: A Comprehensive Multivariate Approach. *Earth Systems and Environment*. https://doi.org/10.1007/s41748-025-00618-x

10. Ebenezer N.K. Boateng, Gerald Atampugre, Patricia Solis, Simon Mariwah, Ishmael Mensah, Christine Furst, **Benjamin K. Nyarko** (2025). Smallholders' perspectives on sustainable agriculture intensification in Northern Ghana. *Sustainable Futures*. https://doi.org/10.1016/j.sftr.2025.101140

11. Alina Schürmann, Mike Teucher, Janina Kleemann, Justice Nana Inkoom, **Benjamin Kofi Nyarko**, Appollonia Aimiosino Okhimamhe, Christopher Conrad (2025). Spatial assessment of current and future migration in response to climate risks in Ghana and Nigeria. *Frontiers in Climate*. https://doi.org/10.3389/fclim.2025.1516045

12. Wonder Kofi Adzigbli, Eric Duku, Gerald Atampugre, Christine Fürst, **Benjamin Kofi Nyarko** (2024). Agricultural land use policies and landscape dynamics: Evidence from rainforest agroecological zone. *Land Use Policy*. https://doi.org/10.1016/j.landusepol.2024.107184

13. Caradee Yael Wright, Anelisa Jaca, Thandi Kapwata, Natasha Naidoo, Babatunde Awokola, Engineer Bainomugisha, Kiros T Berhane, Suzana Blesic, Anderson Kehbila, Rajen Naidoo, Bono Nemukula, **Benjamin Kofi Nyarko**, Akinkunmi Paul Okekunle, Tolu Oni, Reginald Quansah, Sokhna Thiam, Ibrahim Sidi Zakari, Negussie Beyene (2024). Identifying globally relevant learnings from Africa's challenges and solutions to climate change and air pollution-related health impacts: a data science scoping review protocol. *BMJ Open*. https://doi.org/10.1136/bmjopen-2023-076941

14. Geslaine R.L. Gonçalves, Albert Koomson, Joseph Aggrey-Fynn, **Benjamin Kofi Nyarko**, Bhavani E. Narayanaswamy (2024). Invisible Peril: Assessing microplastic pollution in Ghanaian mangroves. *Marine Pollution Bulletin*. https://doi.org/10.1016/j.marpolbul.2024.117361

15. Ebenezer N. K. Boateng, Gerald Atampugre, Simon Mariwah, Ishmael Mensah, Fiifi Amoako Johnson, Christine Furst, **Benjamin K. Nyarko** (2024). Spatial and multivariate assessment of access to water for sustainable agriculture intensification in semi-arid Ghana. *PLOS Water*. https://doi.org/10.1371/journal.pwat.0000283

16. Bryony Townhill, Olivia Harrod, Suzanne Painting, Emmanuel Acheampong, James Bell, **Benjamin Kofi Nyarko**, Georg Engelhard (2023). Climate change risk and adaptation for fisher communities in Ghana. *Journal of Coastal Conservation*. https://doi.org/10.1007/s11852-023-00967-7

17. K.A. Essel-Yorke, M. Anim, **B.K. Nyarko** (2023). Sedimentation assessment using hydrological simulation and bathymetry survey: The case of river Amissa drainage basin, Ghana. *Heliyon*. https://doi.org/10.1016/j.heliyon.2023.e14343

18. Jacob Agyekum, Thompson Annor, Emmanuel Quansah, Benjamin Lamptey, Leonard Kofitse Amekudzi,

Benjamin Kofi Nyarko (2022). Extreme temperature indices over the Volta Basin: CMIP6 model evaluation. *Climate Dynamics*. https://doi.org/10.1007/s00382-022-06503-x

19. **Benjamin Nyarko**, Nicholas Oppong Mensah, Kofi Agyenim Boateng, Anthony Donkor (2022). Influences of E-commerce Adoption on Sales performance among Agrochemical Input Dealers in the Ghanaian City. *Cogent Business & Management*. https://doi.org/10.1080/23311975.2022.2038763
20. Francis Molua Mwambo, Christine Fürst, Christopher Martius, Marcos Jimenez-Martinez, **Benjamin Kofi Nyarko**, Christian Borgemeister (2021). Combined application of the EM-DEA and EX-ACT approaches for integrated assessment of resource use efficiency, sustainability and carbon footprint of smallholder maize production practices in sub-Saharan Africa. *Journal of Cleaner Production*. https://doi.org/10.1016/j.jclepro.2021.126132
21. Francis Molua Mwambo, Christine Fürst, **Benjamin K. Nyarko**, Christian Borgemeister, Christopher Martius (2020). Maize production and environmental costs: Resource evaluation and strategic land use planning for food security in northern Ghana by means of coupled emergy and data envelopment analysis. *Land Use Policy*. https://doi.org/10.1016/j.landusepol.2020.104490
22. **Benjamin Kofi Nyarko** (2020). Modeling Unsaturated Zone Water Movement in the Floodplain Wetlands of the Volta Basin. *Environment and Natural Resources Research*. https://doi.org/10.5539/enrr.v10n3p1
23. **Benjamin Kofi Nyarko** (2020). Wetland River Flow Interaction in a Sedimentary Formation of the White Volta Basin of Ghana. *Earth Science Research*. https://doi.org/10.5539/esr.v9n1p15
24. **Benjamin K. Nyarko** (2019). Effects of Human Generated Fires on Soil Organic Carbon Stocks under Different Vegetation Types in Northern Ghana. *Earth Science Research*. https://www.researchgate.net/profile/Emmanuel-Attoh-3/publication/331374338_Effects_of_Human_Generated_Fires_on_Soil_Organic_Carbon_Stocks_under_Different_Vegetation_Types_in_Northern_Ghana/links/5c7657b2a6fdcc47159ec13e/Effects-of-Human-Generated-Fires-on-Soil-Organic-Carbon-Stocks-under-Different-Vegetation-Types-in-Northern-Ghana.pdf
25. K Adu-Boahen, **Benjamin Kofi Nyarko** (2018). Morphological classification and protection of the central coastline: Implications for erosion management in Ghana. *Social Science Journal*.
26. Koutchoukalo Aleza, Grace B. Villamor, **Benjamin Kofi Nyarko**, Kperkouma Wala, Koffi Akpagana (2018). Shea (Vitellaria paradoxa Gaertn C. F.) fruit yield assessment and management by farm households in the Atacora district of Benin. *PLoS ONE*. https://doi.org/10.1371/journal.pone.0190234
27. Ishmael Yaw Dadson, Kofi Adu-Boahen, **Benjamin Kofi Nyarko** (2018). The Morphological Classification and Protection of The Central Coastline: Implications for Coastal Erosion Management in Ghana. *SOCIALSCI JOURNAL*.
28. Janina Kleemann, Enrico Celio, **Benjamin Kofi Nyarko**, Marcos Jimenez-Martinez, Christine Fürst (2017). Assessing the risk of seasonal food insecurity with an expert-based Bayesian Belief Network approach in northern Ghana, West Africa. *Ecological Complexity*. https://doi.org/10.1016/j.ecocom.2017.09.002
29. Justice Nana Inkoom, **Benjamin Kofi Nyarko**, Kwabena Barima Antwi (2017). Explicit Modeling of Spatial Growth Patterns in Shama, Ghana: an Agent-Based Approach. *Journal of Geovisualization and Spatial Analysis*. https://doi.org/10.1007/s41651-017-0006-2
30. Joshua Ntajal, Benjamin L. Lamptey, Ibrahim B. Mahamadou, **Benjamin K. Nyarko** (2017). Flood disaster risk mapping in the Lower Mono River Basin in Togo, West Africa. *International Journal of Disaster Risk Reduction*. https://doi.org/10.1016/j.ijdrr.2017.03.015
31. Richard Adade, **Benjamin Kofi Nyarko**, Denis Worlanyo Aheto, Kingsley Nana Osei (2017). Fragmentation of wetlands in the south eastern coastal savanna of Ghana. *Regional Studies in Marine Science*. https://doi.org/10.1016/j.rsma.2017.03.003
32. Mabel Anim, **Benjamin Kofi Nyarko** (2017). Lithological responses to sea erosion along selected coastlines between Komenda and Saltpond, Ghana. *Ghana Journal of Geography*.
33. **BK Nyarko** (2017). Spatio-temporal Analyses of Land Use Cover dynamics in a Coastal Savanna Wetland, Ghana. *African Journal of Sustainable Development*. https://www.ajol.info/index.php/ajsd/article/view/178822
34. Adams Osman, **Benjamin Kofi Nyarko**, Simon Mariwah (2016). Vulnerability and risk levels of

communities within Ankobra estuary of Ghana. *International Journal of Disaster Risk Reduction*. https://doi.org/10.1016/j.ijdrr.2016.08.016

35. Emmanuel Nyadzi, Mathew I. S. Ezenwa, **Benjamin K. Nyarko**, A. A. Okhimamhe, Thomas T. Bagamsah, Francis O. Okelola (2015). Assessment of Trace Gas Emissions From Wild Fires in Different Vegetation Types in Northern Ghana: Implications for Global Warming. *Environment and Natural Resources Research*. https://doi.org/10.5539/enrr.v5n2p37
36. **Benjamin K. Nyarko**, Bernd Diekkrüger, Nick C. Van De Giesen, Paul L.G. Vlek (2015). Floodplain wetland mapping in the White Volta River Basin of Ghana. *GIScience & Remote Sensing*. https://doi.org/10.1080/15481603.2015.1026555
37. **Benjamin Kofi Nyarko** (2015). MAINSTREAMING CLIMATE CHANGE INTO GEOSCIENCES CURRICULUM OF TERTIARY EDUCATIONAL SYSTEMS IN GHANA. *2015 AGU Fall Meeting*.
38. Justice Nana Inkoom, **Benjamin Kofi Nyarko** (2014). Simulating Spatial Growth Patterns in Developing Countries: A Case of Shama in the Western Region of Ghana. *2014 AGU Fall Meeting*.
39. **BK Nyarko** (2011). Assessment of climate shift and crop yields in the Cape Coast area in the Central Region of Ghana. *ARPN Journal of Agricultural and Biological Science*. https://doi.org/10.5555/20113156846
40. Moses Jojo Eghan, **Kofi B Nyarko** (2011). Coherent imaging of etched fission fragments and alpha particles tracks in a CR-39 SSNTD. *The African Review of Physics*. https://www.academia.edu/download/92486421/187.pdf
41. David K Essumang, **BK Nyarko**, CK Adokoh (2011). Groundwater quality assessment: a physicochemical properties of drinking water in a rural setting of developing countries. *Can J Sci Ind Res*. https://www.researchgate.net/profile/Christian-Adokoh/publication/215540826_Groundwater_Quality_Assessment_A_physicochemical_properties_of_drinking_water_in_a_rural_setting_of_developing_countries/links/561caebe08ae78721fa190bd/Groundwater-Quality-Assessment-A-physicochemical-properties-of-drinking-water-in-a-rural-setting-of-developing-countries.pdf
42. **Benjamin Kofi Nyarko**, David Kofi Essumang, Moses J. Eghan, Barbara Reichert, Nick van de Giesen, Paul Vlek (2010). Use of isotopes to study floodplain wetland and river flow interaction in the White Volta River basin, Ghana. *Isotopes in Environmental and Health Studies*. https://doi.org/10.1080/10256010903388543
43. B. Smodiš, M. L. Pignata, M. Saiki, E. CortÉs, N. Bangfa, B. Markert, **B. Nyarko**, J. Arunachalam, J. Garty, M. Vutchkov, H. Th. Wolterbeek, E. Steinnes, M. C. Freitas, A. Lucaciu, M. Frontasyeva (2004). Validation and Application of Plants as Biomonitors of Trace Element Atmospheric Pollution – A Co-Ordinated Effort in 14 Countries. *Journal of Atmospheric Chemistry*. https://doi.org/10.1007/s10874-004-1210-2
44. **Benjamin Kofi Nyarko** (2002). Application of a rational model in GIS for flood risk assessment in Accra, Ghana. *Journal of Spatial Hydrology*. https://www.academia.edu/download/5405482/floodrisk.pdf
45. **Benjamin K. Nyarko** (2001). To the Reviewers of Water International: Thank You. *Water International*.
46. **Benjamin Kofi Nyarko** (2000). Flood risk zoning of Ghana: Accra experience. *International Archives of Photogrammetry and Remote Sensing*. https://www.isprs.org/PROCEEDINGS/XXXIII/congress/part7/1039_XXXIII-part7.pdf
47. S. Bamford, E.K. Osae, I.J. Kwame Aboh, Y. Serfor-Armah, **Benjamin Kofi Nyarko**, Francis G. Ofosu, George Tawia Odamtten (1999). Biomonitoring of air pollution through trace element analysis.

Book chapters 4

1. Gerald Atampugre, Melissa Nursey-Bray, Md. Masud-All-Kamal, **Benjamin Kofi Nyarko** (2021). Assessing Farm-Households' Vulnerability to Climate Change Risks in Semi-arid Ghana. *Climate change management*. https://doi.org/10.1007/978-3-030-77259-8_27
2. Samuel Nii Ardey Codjoe, Kwasi Appeaning Addo, Cynthia Addoquaye Tagoe, **Benjamin Kofi Nyarko**, Francisca Martey, Winfred A. Nelson, Philip-Neri Jayson-Quashigah, D. Yaw Atiglo, Prince Osei-Wusu Adjei, Kirk Anderson, Adelina Mensah, Patrick K. Ofori-Danson, Barnabas Akurigo Amisigo, Jennifer Ayamga, Emmanuel Ekow Asmah, Joseph Kwadwo Asenso, Gertrude Owusu, Ruth Maku Quaye, Mumuni

Abu (2019). The Volta Delta, Ghana: Challenges in an African Setting. https://doi.org/10.1007/978-3-030-23517-8_4

3. A Osman, **Benjamin Nyarko** (2017). Geodesign a tool for redefining flood risk disaster in developing countries: a case study of Southern Catchment of Ankobra Basin, Ghana. *Flood Risk Management*. https://books.google.com/books?hl=en&lr=&id=OQWQDwAAQBAJ&oi=fnd&pg=PA93&dq=info:6bwGB4KwUTIJ:scholar.google.com&ots=Xvo8oNqgaj&sig=KTyoXz9Ab1RWCZzE5i5-7vzlmA4
4. Augustine Tanle, **BK Nyarko** (2015). Migrants' Assessment of Prospects in Migration: A Case Study of Conservancy Labourers in the University of Cape Coast, Ghana. *African Roads to Prosperity*. https://scholarlypublications.universiteitleiden.nl/access/item%3A2920712/download#page=167

Reports 1

1. DN Buxton, **Benjamin Kofi Nyarko** (2018). Cocoa Farmers and their perceptions of Climate change: A case study of the Central and Western regions of Ghana. *ARC Publications*. https://www.academia.edu/download/106493155/1.pdf

Theses 2

1. **Benjamin Kofi Nyarko** (2007). Floodplain wetland-river flow synergy in the White Volta River basin, Ghana. *Universitäts-und Landesbibliothek Bonn*. https://bonndoc.ulb.uni-bonn.de/xmlui/handle/20.500.11811/3161
2. **Benjamin Kofi Nyarko** (2000). Determination of flood risk zones in Accra and Tema Metropolis. *University of Cape Coast*. https://ir.ucc.edu.gh/server/api/core/bitstreams/78a2734c-660d-45ff-bb03-b42459360dd9/content