Jonathan A. Quaye-Ballard

Department of Geomatic Engineering
Kwame Nkrumah University of Science and Technology

ORCID 0000-0003-2133-8687 · Google Scholar scholar.google.com/citations?user=j4rxTI8AAAAJ&hl=en · Profile knust.peerford.com/staff/aa3d2936-9538-4843-a91b-749539c3d367

RESEARCH

Interests	Geo-informatics · Engineering Education · Usability
Areas	Global and Planetary Change · Environmental Engineering · Water Science and Technology · Ecology · Building and Construction · Atmospheric Science

RESEARCH SUMMARY

87	1,288	21	30	1.39	13%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 87 publications listed below, 2003–2026. Field-weighted impact is the mean over the 60 works scored for it; 1.00 is the world average for works of the same field, type and year. 8 of the 60 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Prof
Geomatic Engineering, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

EDUCATION AND QUALIFICATIONS

Prof.
Geomatic Engineering, KNUST, Kumasi, Ghana

PUBLICATIONS

Journal articles 84

1. Michael Nyoagbe, **Jonathan Arthur Quaye-Ballard**, John Divine Wise Ayer, Yaw Mensah Asare, Tina Dzigbordi Wemegah (2026). Enhanced dam spillage prediction using lagged feedback random forests at Weija Dam, Ghana. *Scientific African*. https://doi.org/10.1016/j.sciaf.2026.e03611
2. Ashe Abubakar Wulet, **Jonathan Arthur Quaye-Ballard**, Samuel Ato Andam-Akorful, Charles Gyamfi (2026). Evaluation Of Satellite Rainfall Products for Water-Related Studies Across Borno State, Nigeria. *Journal of Science and Technology (Ghana)*. https://doi.org/10.4314/just.v44i3.1
3. Michael Nyoagbe, **Jonathan Arthur Quaye-Ballard**, John Divine Wise Ayer, Yaw Mensah Asare, Tina Dzigbordi Wemegah (2026). Smart city–oriented GeoAI framework for urban flood early warning: Evidence from Weija Dam, Ghana. *Scientific African*. https://doi.org/10.1016/j.sciaf.2026.e03591
4. Diriba Firdisa Tolasa, Emmanuel Offei Akrofi, John Wise Divine Ayer, Edward Matthew Osei Jnr., **Jonathan Arthur Quaye-Ballard** (2025). An Assessment Of The Legal, Institutional, And Geospatial Technology For Managing Urban Land In Addis Ababa And Adama, Ethiopia. *Journal of Science and Technology (Ghana)*. https://doi.org/10.4314/just.v43i2.1
5. Afua Amponsah Amankwah, Stefan Porembski, Edouard Konan Kouassi, **Jonathan Arthur Quaye-Ballard**, Stephen Adu-Bredu (2025). Conservation status of key protected areas in the forest-savannah transition zone of Ghana based on red list and genetic heat indices. *Discover Forests*. https://doi.org/10.1007/s44415-025-00051-y

6. **JA Quaye-Ballard** (2025). Forest conservation practices: Insights of local communities near wildlife-protected areas in Ghana. *Journal of Agriculture and Rural Development in the Tropics and Subtropics (JARTS)*. http://www.jarts.info/index.php/jarts/article/view/kobra-2025052211170

7. Samira Naa Yemoley Nsiah, **Jonathan Arthur Quaye-Ballard**, Jephthah Marfo Nimoh, Titus Tienaah, Kwame Obeng, Tina Dzigbordi Wemegah, Precious Adwoa Okyere (2025). Impact Of Mining Activities on Land Use Land Cover (Lulc) Using Geospatial Techniques in The Obuasi Municipality. *Journal of Science and Technology (Ghana)*. https://doi.org/10.4314/just.v43i3.1

8. Elorm Fiawotoafor, Solomon S.R. Gidigasu, Emmanuel Gikunoo, **Jonathan A.Q. Ballard**, Bright Andoh-Baidoo (2025). Shoreline changes and its impact on coastal communities: A case study of Senya Beraku, Ghana. *Scientific African*. https://doi.org/10.1016/j.sciaf.2025.e02901

9. Linda Boamah Appiah, Charles Gyamfi, Clement Nyamekye, **Jonathan Quaye Ballard**, Geophrey Kwame Anornu (2025). Spatio-temporal distribution of aquatic macrophytes in the Lower Volta Basin, Ghana. *Discover Environment*. https://doi.org/10.1007/s44274-025-00222-w

10. Josephine Biney, Blestmond A. Brako, Simon Kafui Gawu, Gordon Foli, **Jonathan Quaye-Ballard** (2025). The use of GIS/remote sensing in determining gold potential areas on the Paleoproterozoic Asankragwa gold belt, Ghana. *Arabian Journal of Geosciences*. https://doi.org/10.1007/s12517-025-12192-7

11. C.I. Kelly, E.F. Boateng, A. Zibrila, S.A. Andam-Akorful, **J.A. Quaye-Ballard**, P.B. Laari, P. Damoah-Afari (2025). Understanding hydrometeorological conditions and their relationship with crop production in the upper east region, Ghana. *Agricultural Water Management*. https://doi.org/10.1016/j.agwat.2025.109434

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13. Afua Amponsah Amankwah, **Jonathan Arthur Quaye-Ballard**, Edouard Konan Kouassi, Stefan Porembski, Emmanuel Amponsah Manu, Stephen Adu-Bredu (2024). Effect of anthropogenic activities on carbon stocks in protected areas within Ghana's forest-Savannah transition zone. *Trees Forests and People*. https://doi.org/10.1016/j.tfp.2024.100641

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15. J.N. Marfo, **J.A. Quaye-Ballard**, S.O. Kwakye, K. Obeng, A. Arko-Adjei, N.L. Quaye-Ballard, R.N.A. Quao (2024). Groundwater quality and potential analysis using geospatial techniques: The case of Ashanti Region in Ghana. *Heliyon*. https://doi.org/10.1016/j.heliyon.2024.e27545

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19. Opuni Kwarteng, **Jonathan Quaye-Ballard**, Edwin Kojo Larbi, Benedict Asamoah Asante, Joseph Agyei Danquah (2024). Surface runoff estimation at the Densu River Basin using geographic information system (GIS) and remote sensing (RS). *Geodesy and Cartography*. https://doi.org/10.3846/gac.2024.20059

20. EO Akrofi, **JAQB Quaye-Ballard** (2023). Assessment of urban land governance for sustainable governance in Ethiopia. *African Journal of Land Policy and Geospatial Sciences*. https://ageconsearch.umn.edu/record/334678/

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22. Richard Baidoo, Anthony Arko-Adjei, Michael Poku-Boansi, **Jonathan Arthur Quaye-Ballard**, Dorcas Peggy Somuah (2023). Land use and land cover changes implications on biodiversity in the Owabi catchment of Atwima Nwabiagya North District, Ghana. *Heliyon*. https://doi.org/10.1016/j.heliyon.2023.e15238

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24. Josephine Baiden-Amissah, Blestmond A. Brako, Gordon Foli, **Jonathan Quaye-Ballard**, Simon K. Y. Gawu (2023). USING GIS AS A SPATIAL SUPPORT TOOL TO DISCRIMINATE BETWEEN TRUE AND FALSE GEOCHEMICAL ANOMALIES AT THE NORTHERN MARGIN OF THE ASANKRAGWA GOLD BELT IN THE PALEOPROTEROZOIC KUMASI BASIN, GHANA. *Earth Science Malaysia*. https://doi.org/10.26480/esmy.01.2024.61.69

25. **NL Quaye-Ballard**, E Yeboah (2022). Application of smart technologies in Cadastral surveying of large areas in Ghana. *FIG Congress*. https://fig.net/resources/proceedings/fig_proceedings/fig2022/papers/ts09b/TS09B_quaye_-_ballard_asenso-_gyambibi_et_al_11390.pdf

26. Efiba Vidda Senkyire Kwarteng, Frank Badu Osei, Samuel Ato Andam-Akorful, Alexander Kwarteng, Da-Costa Boakye Mensah Asare, **Jonathan Arthur Quaye-Ballard**, Alfred Allan Duker (2022). Mapping Spatial Variation and Impact of the National MDA Program on Lymphatic Filariasis Elimination in Ghana: An Initial Study. *Frontiers in Tropical Diseases*. https://doi.org/10.3389/fitd.2022.811909

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28. Alfred Awotwi, Geophrey K. Anornu, **Jonathan Arthur Quaye-Ballard**, Thompson Annor, Isaac Kwadwo Nti, Samuel N. Odai, Emmanuel Arhin, Charles Gyamfi (2021). Impact of post- reclamation of soil by large-scale, small-scale and illegal mining on water balance components and sediment yield: Pra River Basin case study. *Soil and Tillage Research*. https://doi.org/10.1016/j.still.2021.105026

29. George Ashiagbor, Winston Adams Asante, **Jonathan Arthur Quaye-Ballard**, Eric Kwabena Forkuo, Emmanuel Acheampong, Ernest Foli (2021). Mangrove mapping using Sentinel-1 data for improved decision support on sustainable conservation and restoration interventions in the Keta Lagoon Complex Ramsar Site, Ghana. *Marine and Freshwater Research*. https://doi.org/10.1071/mf20105

30. Yvonne Yeboah Adusei, **Jonathan Quaye-Ballard**, Albert Amatey Adjaottor, Alex Appiah Mensah (2021). Spatial prediction and mapping of water quality of Owabi reservoir from satellite imageries and machine learning models. *The Egyptian Journal of Remote Sensing and Space Science*. https://doi.org/10.1016/j.ejrs.2021.06.006

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32. Fred Oduro Sarpong, **Jonathan Arthur Quaye-Ballard**, Ernest Biney (2021). The Use of 3S Technology to

Assess Cocoa Swollen Shoot Virus Disease in Offinso Cocoa District Area, Ghana. *Journal of Health and Environmental Research*. https://doi.org/10.11648/j.jher.20210704.11

33. Emmanuel Daata kullo, Eric Kwabena Forkuo, Ernest Biney, Emmanuel Harris, **Jonathan Arthur Quaye-Ballard** (2021). The impact of land use and land cover changes on socioeconomic factors and livelihood in the Atwima Nwabiagya district of the Ashanti region, Ghana. *Environmental Challenges*. https://doi.org/10.1016/j.envc.2021.100226

34. Ebenezer Boakye, F. O. K. Anyemedu, Emmanuel A. Donkor, **Jonathan A. Quaye-Ballard** (2021). Variability of suspended sediment yield in the Pra River Basin, Ghana. *Environment Development and Sustainability*. https://doi.org/10.1007/s10668-021-01494-x

35. Divine M. Ashigbi, Michael N. Sackey, Yesuenyeagbe A.K. Fiagbe, **Jonathan Quaye-Ballard** (2021). Vibration response based crack diagnosis in beam-like structures using fuzzy inference system. *Scientific African*. https://doi.org/10.1016/j.sciaf.2021.e01051

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38. Afua Amponsah Amankwah, **Jonathan Arthur Quaye-Ballard**, Bennetta Koomson, Richard Kwasi Amankwah, Alfred Awotwi, Bright O. Kankam, Nana Yeboaa Opuni-Frimpong, Douglas Siaw Baah, Stephen Adu-Bredu (2020). Deforestation in forest-savannah transition zone of Ghana: Boabeng-Fiema monkey sanctuary. *Global Ecology and Conservation*. https://doi.org/10.1016/j.gecco.2020.e01440

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41. Ibrahim Abdul Sulemana, **Jonathan Quaye-Ballard**, Clement Ntori, Alfred Awotwi, Oladunjoye Michael Adeyinka, Thomas Moore Okrah, Abena Asare-Ansah (2020). Location Mapping of Hydrothermal Alteration Using Landsat 8 Data: A Case of Study in Prestea Huni Valley District, Ghana. *International Journal of Geography and Geology*. https://doi.org/10.18488/journal.10.2020.91.13.37

42. A. B. Agyemang, **Jonathan Arthur Quaye-Ballard**, SJ Godwin, K. Fumey-Nassah (2020). Measurement of tree volume by means of non-metric 35mm photography and photogrammetric approach. *Journal of Science and Technology (Ghana)*.

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46. Samuel Bansah, Samuel Ato Andam-Akorful, **Jonathan Quaye-Ballard**, Matthew Coffie Wilson, Solomon Senyo Gidigasu, Geophrey K. Anornu (2019). An Evaluation of Catchment Transit Time Model Parameters: A Comparative Study between Two Stable Isotopes of Water. *Geosciences*. https://doi.org/10.3390/

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47. Thomas Moore Okrah, **J. A Quaye-Ballard**, S. A Andam-Akorful, Ibrahim Abdul Sulemana (2019). Assessing Spatial and Temporal Precipitation Dynamics in Upper East Region of Ghana Using Chirps Data from 1981 to 2016. *International Journal of Geography and Geology*. https://doi.org/10.18488/journal.10.2019.84.110.127

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Jonathan Arthur Quaye-Ballard, Yue-Hong Chen, Ying-Hui Zhao (2016). Monitoring rangeland degradation using a novel local NPP scaling based scheme over the “Three-River Headwaters” region, hinterland of the Qinghai-Tibetan Plateau. *Quaternary International*. https://doi.org/10.1016/j.quaint.2016.07.050

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63. Samuel Ato Andam-Akorful, Xingxiang He, Vagner G. Ferreira, **Jonathan Arthur Quaye-Ballard** (2015). A Multivariate Analysis of Freshwater Variability over West Africa. *2015 AGU Fall Meeting*.
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65. **JA Quaye-Ballard** (2013). Exploring Geospatial data through Verbal Protocol Analysis (VPA): A case study at Hohai University, China. *International Journal of Engineering Education*. https://www.ijee.ie/articles/Vol29-3/16_ijee2721ns.pdf
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69. **Jonathan Arthur Quaye-Ballard**, Ru An, Richard Ruan, Kwaku Amaning Adjei, Samuel Akorful-Andam (2013). Validation of Climate Research Unit High Resolution Time-Series Rainfall Data over Three Source Region: Results of 52 Years. *Advanced materials research*. https://doi.org/10.4028/www.scientific.net/amr.726-731.3542
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73. **JonathanArthur Quaye-Ballard**, Ru An (2010). Modelling population growth on public water and sanitation facilities using GIS and statistics: A case study of Aboabo, Ghana. *Indian Journal of Medical Sciences*. https://doi.org/10.4103/0019-5359.101807
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77. Marga Koelen, **Jonathan Arthur Quaye-Ballard** (2009). The Importance of Digital Libraries in Joint Educational Programmes. *D-Lib Magazine*. https://doi.org/10.1045/november2009-koelen
78. **JA Quaye-Ballard**, J Ayer (2009). Using GIS and statistical approach to model the effect of population increase on water and public toilet facilities at densely populated areas: A case study of Aboabo in the ….

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81. **JA Quaye-Ballard** (2007). An Introductory Cartography for Geomaticians. *Payless Publications*.
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Conference papers 1

1. **JA Quaye-Ballard** (2014). Monitoring rangeland degradation on the "Three River Headwaters" region in 1990 and 2004, Qinghai, China. *2014 IEEE Geoscience and Remote Sensing Symposium*. https://ieeexplore.ieee.org/abstract/document/6947243/

Reports 2

1. **JA Quaye-Ballard** (2025). Role of The Forest-Savanna Transition Zones in Mitigating Climate Change at Lamto Scientific Reserve, Côte d'Ivoire. *WASCAL*. http://academia.wascal.org/handle/123456789/1135
2. **Jonathan Quaye-Ballard**, AFA Marfo, A Brobbey, AO Antwi, MK Baah, E Bessah, Gordon A Awandare (2021). Scientific African. *Scientific African*. https://www.researchgate.net/profile/Temitope-D-Timothy-Oyedotun/publication/356402866_Household_Waste_Generation_Change_in_Waste_Composition_and_the_Exposure_to_COVID-19_in_Guyana_and_Nigeria/links/619fb8b1d7d1af224b241a9b/Household-Waste-Generation-Change-in-Waste-Composition-and-the-Exposure-to-COVID-19-in-Guyana-and-Nigeria.pdf?_sg%5B0%5D=started_experiment_milestone&origin=journalDetail