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RESEARCH

Areas: Global and Planetary Change · Atmospheric Science · Astronomy and Astrophysics · Oceanography · Ecology, Evolution, Behavior and Systematics · Aerospace Engineering

RESEARCH SUMMARY

22	477	8	6	1.85	18%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 22 publications listed below, 2014–2026. Field-weighted impact is the mean over the 22 works scored for it; 1.00 is the world average for works of the same field, type and year. 4 of the 22 papers scored for it are among the world's most cited tenth for their field, type and year.

PUBLICATIONS

Journal articles 22

1. **Kwesi Akumenyi Quagraine**, Kwesi Twentwewa Quagraine, Francis Nkrumah, Bruce Hewitson, Mark Tadross, Nana Ama Browne Klutse (2026). An Index to Characterize the South Indian Ocean High-Pressure System and Its Variability. *Atmospheric Science Letters*. https://doi.org/10.1002/asl2.70056
2. Jadwiga H. Richter, Everette Joseph, Marybeth C. Arcodia, Judith Berner, Julie L. Demuth, Pete Falloon, Glen S. Romine, Jacob T. Cohen, Jorge Gonzalez-Cruz, Mohamad El Gharamti, … **Kwesi A. Quagraine** and 14 others (2026). Earth System Predictability across Time Scales for a Resilient Society: A Research Community Perspective. *Bulletin of the American Meteorological Society*. https://doi.org/10.1175/bams-d-24-0155.1
3. **Kwesi Akumenyi Quagraine**, Babatunde J. Abiodun, Samuel Essien-Baidoo (2025). Africa must lead the governance of solar radiation management. *Nature Climate Change*. https://doi.org/10.1038/s41558-025-02420-z
4. Naomi Kumi, Caleb Mensah, **Kwesi A. Quagraine**, Trisha D. Patel, Frederick Otu-Larbi, Nana Agyemang Prempeh, Mariam Nguvava, Tiro Nkemelang, Babatunde J. Abiodun, Christopher Lennard, Mark G. New, Romaric C. Odoulami (2025). Africa's regional and local climate response to stratospheric aerosol injection characteristics. *Frontiers in Climate*. https://doi.org/10.3389/fclim.2025.1599405
5. Francis Nkrumah, **Kwesi A. Quagraine**, Gandome Mayeul Leger Davy Quenum, Daniele Visioni, Hubert A. Koffi, Nana Ama Browne Klutse (2025). Assessing Regional Climate Trends in West Africa Under Geoengineering: A Multimodel Comparison of UKESM1 and CESM2. *Journal of Geophysical Research Atmospheres*. https://doi.org/10.1029/2024jd043117
6. Kwesi T Quagraine, Travis A O'Brien, **Kwesi A Quagraine**, Ben Kravitz, Simone Tilmes (2025). Assessing changes in atmospheric rivers under stratospheric aerosol injection using ARISE-SAI-1.5. *Environmental Research Climate*. https://doi.org/10.1088/2752-5295/ade61a
7. Kwesi Twentwewa Quagraine, Kwesi Twentwewa Quagraine, **Kwesi Akumenyi Quagraine**, Francis Nkrumah, Temitope Egbebiyi, Nana Ama Browne Klutse (2025). Assessing the Impact of the South Indian Ocean High-Pressure System Using a Novel Index. *International Journal of Climatology*. https://doi.org/10.1002/joc.70031
8. Atanas Dommo, Francis Nkrumah, **Kwesi A. Quagraine**, Nana Ama Browne Klutse, Gandome Mayeul Léger Davy Quenum, Hubert A. Koffi (2025). Assessing the Response of Surface Cloud Radiative Effects

to Stratospheric Aerosol Injections Over West and Central Africa. *Journal of Geophysical Research Atmospheres*. https://doi.org/10.1029/2025jd043576

9. **Kwesi A Quagraine**, Mari R Tye, Kwesi T Quagraine, Simone Tilmes, Isla R Simpson, Francis Nkrumah, Temitope S Egbebiyi, Romaric C Odoulami, Nana Ama Browne Klutse (2025). Assessing the impact of stratospheric aerosol injection on precipitation extremes in Africa using the ARISE-SAI-1.5 dataset. *Environmental Research Climate*. https://doi.org/10.1088/2752-5295/adee3c
10. Francis Nkrumah, Gandome Mayeul Leger Davy Quenum, **Kwesi A Quagraine**, Simone Tilmes, Nana Ama Browne Klutse, Atanas Dommo, Hubert A Koffi, Patrick Essien, Rebecca Bediako (2025). Climate response to stratospheric aerosol injection during the Harmattan season in West Africa. *Environmental Research Climate*. https://doi.org/10.1088/2752-5295/adaa0c
11. Jerry Opoku-Ansah, Rabbi Boateng, Charles Lloyd Yeboah Amuah, Peter Osei-Wusu Adueming, Justice Allotey Pappoe, Jonathan Ntow, **Kwesi Quagraine**, Shemmira Yunus, Benjamin Anderson, Moses Jojo Eghan (2025). Identification of Spectral Fingerprints in Different Batches of Antimalarial Herbal Drugs Using Laser-Induced Autofluorescence and Chemometric Techniques. *Journal of Fluorescence*. https://doi.org/10.1007/s10895-025-04192-3
12. Wenfu Tang, Rajesh Kumar, Anna Del Moral Méndez, Felicity Ahafianyo, Akintomide A. Akinsanola, Agbeli Ameko, Marleen Dekker, Rong Fu, Benjamin Gaubert, Samson Hagos, ... **Kwesi A. Quagraine** and 37 others (2025). The UCAR Africa Initiative: Recent Insights, Challenges, and Opportunities to Foster Collaborative Research for Environmental Sustainability. *Bulletin of the American Meteorological Society*. https://doi.org/10.1175/bams-d-24-0118.1
13. **Kwesi A. Quagraine**, Bruce Hewitson, Francis Nkrumah, Kwesi T. Quagraine, Temitope S. Egbebiyi (2024). A simple subtropical high-pressure system index over the South Atlantic. *Atmospheric Science Letters*. https://doi.org/10.1002/asl.1266
14. Nana Ama Browne Klutse, Babatunde J. Abiodun, **Kwesi A. Quagraine**, Francis Nkrumah, Abayomi A. Abaton, Jimmy Adekoke, Mouhamadou Bamba Sylla, Rebecca Berkoh-Oforiwaa, Hubert A. Koffi, Patrick Essien (2024). Projected Changes in Rainfall Extremes over West African Cities Under Specific Global Warming Levels Using CORDEX and NEX-GDDP Datasets. *Earth Systems and Environment*. https://doi.org/10.1007/s41748-024-00425-w
15. Francis Nkrumah, Cornelia Klein, **Kwesi Akumenyi Quagraine**, Rebecca Berkoh-Oforiwaa, Nana Ama Browne Klutse, Patrick Essien, Gandomè Mayeul Leger Davy Quenum, Hubert Azoda Koffi (2023). Classification of large-scale environments that drive the formation of mesoscale convective systems over southern West Africa. *Weather and Climate Dynamics*. https://doi.org/10.5194/wcd-4-773-2023
16. Patrick Essien, Cosme Alexandre Oliveira Barros Figueiredo, Hisao Takahashi, Nana Ama Browne Klutse, Cristiano Max Wrasse, João Maria de Sousa Afonso, David Pareja Quispe, Solomon Otoo Lomotey, Tunde Toyese Ayorinde, José H. A. Sobral, Moses Jojo Eghan, Samuel Sanko Sackey, Diego Barros, Anderson V. Bilibio, Francis Nkrumah, **Kwesi Akumenyi Quagraine** (2022). Intertropical Convergence Zone as the Possible Source Mechanism for Southward Propagating Medium-Scale Traveling Ionospheric Disturbances over South American Low-Latitude and Equatorial Region. *Atmosphere*. https://doi.org/10.3390/atmos13111836
17. Francis Nkrumah, **Kwesi Akumenyi Quagraine**, Kwesi Twentwewa Quagraine, Caroline Wainwright, Gandomè Mayeul Leger Davy Quenum, Abraham Amankwah, Nana Ama Browne Klutse (2022). Performance of CMIP6 HighResMIP on the Representation of Onset and Cessation of Seasonal Rainfall in Southern West Africa. *Atmosphere*. https://doi.org/10.3390/atmos13070999
18. Nana Ama Browne Klutse, **Kwesi Akumenyi Quagraine**, Francis Nkrumah, Kwesi Twentwewa Quagraine, Rebecca Berkoh-Oforiwaa, Joshua Fafanyo Dzrobi, Mouhamadou Bamba Sylla (2021). The Climatic Analysis of Summer Monsoon Extreme Precipitation Events over West Africa in CMIP6 Simulations. *Earth Systems and Environment*. https://doi.org/10.1007/s41748-021-00203-y
19. **Kwesi Akumenyi Quagraine**, Francis Nkrumah, Cornelia Klein, Nana Ama Browne Klutse, Kwesi Twentwewa Quagraine (2020). West African Summer Monsoon Precipitation Variability as Represented by Reanalysis Datasets. *Climate*. https://doi.org/10.3390/cli8100111
20. Nana Ama Browne Klutse, Vincent O Ajayi, Emiola Olabode Gbobaniyi, Temitope S Egbebiyi, Kouakou

Kouadio, Francis Nkrumah, **Kwesi Akumenyi Quagraine**, Christiana Olusegun, Ulrich Diasso, Babatunde J Abiodun, Kamoru Lawal, Grigory Nikulin, Christopher Lennard, Alessandro Dosio (2018). Potential impact of 1.5 °C and 2 °C global warming on consecutive dry and wet days over West Africa. *Environmental Research Letters*. https://doi.org/10.1088/1748-9326/aab37b

21. **Kwesi Akumenyi Quagraine**, Nana Ama Browne Klutse, Francis Nkrumah, David Cudjoe Adukpo, Kwadwo Owusu (2017). Changes in Rainfall Characteristics in Wenchi and Saltpond Farming Areas of Ghana. *International Journal of Geosciences*. https://doi.org/10.4236/ijg.2017.83015

22. Francis Nkrumah, Nana Ama Browne Klutse, David Cudjoe Adukpo, Kwadwo Owusu, **Kwesi Akumenyi Quagraine**, Alfred Owusu, William Gutowski (2014). Rainfall Variability over Ghana: Model versus Rain Gauge Observation. *International Journal of Geosciences*. https://doi.org/10.4236/ijg.2014.57060