Dr. Winifred Ayinpogbilla Atiah

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PROFILE

Dr. Winifred Atiah is a climate scientist and statistician with a strong interdisciplinary background. She holds a PhD in Meteorology and Climate Science and a Master's degree in Mathematical Sciences, with a specialization in Applied Statistics. She combines strong analytical and quantitative skills with expertise in climate variability, tropical atmosphere–ecosystem interactions, and extreme weather analysis.

She is a Senior Lecturer at the Kwame Nkrumah University of Science and Technology (KNUST), Ghana, and a researcher at Stockholm University, contributing to the Swedish Research Council-funded TPTP project on climate tipping points in the Amazon and African rainforests.

She has authored over 20 peer-reviewed publications and has led applied research in sustainable agriculture. She also serves as Editor-in-Chief of the African Journal of Geophysics and Earth Sciences, and contributes to science-policy engagement and scientific advocacy. She regularly acts as a peer reviewer for international journals.

RESEARCH

Areas: Global and Planetary Change · Atmospheric Science · Ecology, Evolution, Behavior and Systematics · Agronomy and Crop Science · Artificial Intelligence · Complementary and alternative medicine

RESEARCH SUMMARY

21	589	13	15	2.01	15%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 21 publications listed below, 2016–2026. Field-weighted impact is the mean over the 20 works scored for it; 1.00 is the world average for works of the same field, type and year. 3 of the 20 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Senior Lecturer 2020–2024
Meteorology and Climate Science, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

EDUCATION AND QUALIFICATIONS

Senior Lecturer 2020–present
Meteorology and Climate Science, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

PhD. Meteorology and Climate Science 2015–2018
Physics, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

MSc. Mathematical Sciences 2014–2015
Mathematical Sciences, Institute of Mathematical Sciences, Mbour, Senegal

BSc. Meteorology and Climate Science 2009–2013
Physics, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

DISTINCTIONS, MEMBERSHIPS AND SERVICE

Editor-in-chief 2025–present
African Journal of Geophysics and Earth Sciences (AJGES)

Organization for Women in Science for the Developing World
Trieste, Italy

Visiting Researcher 2018–2019
Earth and Environmental Science, Botswana International University of Science and Technology, Palapye, Botswana

PUBLICATIONS

Journal articles 21

1. Frank Baffour-Ata, Lawrence Guodaar, **Winifred Ayinpogbilla Atiah**, Patrick Davies, Peter Kwasi Forson, Ruth Akorli (2026). Perceptions of Climate Change, Meteorological Trends and Implications for Smallholder Cashew Farming in Ghana: Evidence From the Jaman North District. *Geo Geography and Environment*. https://doi.org/10.1002/geo2.70061
2. Patrick Davies, Ossénatou Mamadou, Emmanuel Quansah, Jeffrey N. A. Aryee, **Winifred A. Atiah**, Leonard K. Amekudzi, Fredrick Sam, Sylvie Galle, Jérome Demarty (2026). Statistical Evaluation of Changes in Surface Radiative Flux Across Different Sites in West Africa. *Advances in Meteorology*. https://doi.org/10.1155/adme/3703490
3. Loretta Pearl Poku, **Winifred Ayinpogbilla Atiah**, Leonard Kofitse Amekudzi (2026). The Evidence of Climate Change in West Africa: The Role of the Multivariate El Niño-Southern Oscillation (ENSO) Index. *Meteorological Applications*. https://doi.org/10.1002/met.70184
4. **Winifred Ayinpogbilla Atiah**, Eduardo Garcia Bendito, Francis Kamau Muthoni (2025). Evaluating Seasonal Rainfall Forecast Gridded Models over Sub-Saharan Africa. *Hydrology*. https://doi.org/10.3390/hydrology12100251
5. **Winifred Ayinpogbilla Atiah**, Robert Johnson, Francis Kamau Muthoni, Gizaw Tsidu Mengistu, Leonard Kofitse Amekudzi, Osei Kwabena, Fred Kizito (2023). Bias correction and spatial disaggregation of satellite-based data for the detection of rainfall seasonality indices. *Heliyon*. https://doi.org/10.1016/j.heliyon.2023.e17604
6. Marian Amoakowaah Osei, Jeffrey N. A. Aryee, Jacob Agyekum, Jesse Ashong, Samuel Owusu Ansah, Maureen Abla Ahiataku, Frank Baffour-Ata, Leonard K. Amekudzi, **Winifred Ayinpogbilla Atiah**, Michael Padi, Johnson Ameho, Bashiru Yahaya, Joseph Portuphy, Benjamin Lamptey (2023). Environment of severe storm formations over West Africa on the 26-28 June 2018. *Meteorological Applications*. https://doi.org/10.1002/met.2109
7. Steve Ampofo, Thompson Annor, Jeffrey N.A. Aryee, **Winifred A. Atiah**, Leonard K. Amekudzi (2023). Long-term spatio-temporal variability and change in rainfall over Ghana (1960–2015). *Scientific African*. https://doi.org/10.1016/j.sciaf.2023.e01588
8. **Winifred Ayinpogbilla Atiah**, Leonard K. Amekudzi, Sylvester K. Danuor (2023). Mesoscale convective systems and contributions to flood cases in Southern West Africa (SWA): A systematic review. *Weather and Climate Extremes*. https://doi.org/10.1016/j.wace.2023.100551
9. Jacob Agyekum, Leonard K. Amekudzi, Thorwald Stein, Jeffrey N. A. Aryee, **Winifred Ayinpogbilla Atiah**, Elijah Adesanya Adefisan, Sylvester K. Danuor (2023). Verification of satellite and model products against a dense rain gauge network for a severe flooding event in Kumasi, Ghana. *Meteorological Applications*. https://doi.org/10.1002/met.2150
10. Martin Kohler, Geoffrey Bessardon, Barbara Brooks, Norbert Kalthoff, Fabienne Lohou, Bianca Adler, Oluwagbemiga Olawale Jegede, Barbara Altstädter, Leonard Kofitse Amekudzi, Jeffrey Nii Armah Aryee, … **Winifred Ayinpogbilla Atiah** and 29 others (2022). A meteorological dataset of the West African monsoon during the 2016 DACCIWA campaign. *Scientific Data*. https://doi.org/10.1038/

s41597-022-01277-7

11. **Winifred A. Atiah**, Leonard K. Amekudzi, Robert A. Akum, Emmanuel Quansah, Philip Antwi-Agyei, Sylvester K. Danuor (2021). Climate variability and impacts on maize (Zea mays) yield in Ghana, West Africa. *Quarterly Journal of the Royal Meteorological Society*. https://doi.org/10.1002/qj.4199
12. **Winifred Ayinpogbilla Atiah**, Francis K. Muthoni, Bekele Kotu, Fred Kizito, Leonard K. Amekudzi (2021). Trends of Rainfall Onset, Cessation, and Length of Growing Season in Northern Ghana: Comparing the Rain Gauge, Satellite, and Farmer's Perceptions. *Atmosphere*. https://doi.org/10.3390/atmos12121674
13. Marlon Maranan, Andreas H. Fink, Peter Knippertz, Leonard K. Amekudzi, **Winifred A. Atiah**, Martin Stengel (2020). A Process-Based Validation of GPM IMERG and Its Sources Using a Mesoscale Rain Gauge Network in the West African Forest Zone. *Journal of Hydrometeorology*. https://doi.org/10.1175/jhm-d-19-0257.1
14. **Winifred Ayinpogbilla Atiah**, Gizaw Mengistu Tsidu, Leonard Kofitse Amekudzi (2020). Investigating the merits of gauge and satellite rainfall data at local scales in Ghana, West Africa. *Weather and Climate Extremes*. https://doi.org/10.1016/j.wace.2020.100292
15. **Winifred Ayinpogbilla Atiah**, Gizaw Mengistu Tsidu, L. K. Amekudzi, Charles Yorke (2020). Trends and interannual variability of extreme rainfall indices over Ghana, West Africa. *Theoretical and Applied Climatology*. https://doi.org/10.1007/s00704-020-03114-6
16. **Winifred Ayinpogbilla Atiah**, Leonard Kofitse Amekudzi, Jeffrey Nii Armah Aryee, Kwasi Preko, Sylvester Kojo Danuor (2020). Validation of Satellite and Merged Rainfall Data over Ghana, West Africa. *Atmosphere*. https://doi.org/10.3390/atmos11080859
17. J.N.A. Aryee, L.K. Amekudzi, K. Preko, **W.A. Atiah**, S.K. Danuor (2019). Estimation of planetary boundary layer height from radiosonde profiles over West Africa during the AMMA field campaign: Intercomparison of different methods. *Scientific African*. https://doi.org/10.1016/j.sciaf.2019.e00228
18. **Winifred A. Atiah**, Leonard K. Amekudzi, Emmanuel Quansah, Kwasi Preko (2019). The Spatio-Temporal Variability of Rainfall over the Agro-Ecological Zones of Ghana. *Atmospheric and Climate Sciences*. https://doi.org/10.4236/acs.2019.93034
19. J. N. A. Aryee, L. K. Amekudzi, **W. A. Atiah**, M. A. Osei, E. Agyapong (2018). Overview of surface to near-surface atmospheric profiles over selected domain during the QWeCI project. *Meteorology and Atmospheric Physics*. https://doi.org/10.1007/s00703-018-0618-1
20. J. N. A. Aryee, L. K. Amekudzi, E. Quansah, N. A. B. Klutse, **W. A. Atiah**, C. Yorke (2017). Development of high spatial resolution rainfall data for Ghana. *International Journal of Climatology*. https://doi.org/10.1002/joc.5238
21. Leonard K. Amekudzi, Marian A. Osei, **Winifred A. Atiah**, Jeffrey N. A. Aryee, Maureen A. Ahiataku, Emmanuel Quansah, Kwasi Preko, Sylvester K. Danuor, Andreas H. Fink (2016). Validation of TRMM and FEWS Satellite Rainfall Estimates with Rain Gauge Measurement over Ashanti Region, Ghana. *Atmospheric and Climate Sciences*. https://doi.org/10.4236/acs.2016.64040