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RESEARCH

Interests	Water Resources · Hydrology · Hydraulics
Areas	Global and Planetary Change · Water Science and Technology · Atmospheric Science · Ocean Engineering · Ecology, Evolution, Behavior and Systematics · Environmental Engineering

RESEARCH SUMMARY

95	1,833	23	52	1.74	15%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 95 publications listed below, 1998–2025. 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. 9 of the 60 papers scored for it are among the world's most cited tenth for their field, type and year.

PUBLICATIONS

Journal articles 85

1. Awo Boatemaa Manson Incoom, Kwaku Amaning Adjei, **Samuel Nii Odai**, Ebenezer Kwadwo Siabi, Peter Donkor, Kwasi Frimpong (2025). Adaptation strategies by smallholder farmers to climate change and variability: The case of the savannah zone of Ghana. *Sustainable Futures*. https://doi.org/10.1016/j.sftr.2025.100543
2. KA Adjei, **SN Odai** (2025). Experimental Effects of Sand Dams on the Quality of Water and Rate of Evaporation: A case study in the Nabogo Basin. *Journal of Emerging Trends in Engineering and Applied Sciences*. https://doi.org/10.10520/ejc-sl_jeteas_v16_n2_a3
3. KA Adjei, SA Andam-Akorful, C Gyamfi, **SN Odai** (2024). ASSESSMENT OF NEAR-REAL-TIME SATELLITE RAINFALL ESTIMATES FOR MONITORING SUB-DAILY EXTREME PRECIPITATION EVENTS IN TROPICAL WEST AFRICA. *Chapman Conference on Remote Sensing of the Water Cycle*. https://scholar.google.com/scholar?cluster=11150844615713313568&hl=en&oi=scholarr
4. Awo Boatemaa Manson Incoom, Kwaku Amaning Adjei, **Samuel Nii Odai**, Komlavi Akpoti, Ebenezer Kwadwo Siabi, Alfred Awotwi (2023). Assessing climate model accuracy and future climate change in Ghana's Savannah regions. *Journal of Water and Climate Change*. https://doi.org/10.2166/wcc.2023.070
5. Frederick Yaw Logah, Emmanuel Obuobie, Kwaku Amaning Adjei, Charles Gyamfi, **Samuel Nii Odai** (2023). Capability of satellite rainfall products in simulating streamflows in the Black Volta Basin. *Sustainable Water Resources Management*. https://doi.org/10.1007/s40899-023-00871-w
6. Sylvester Darko, Kwaku Amaning Adjei, Charles Gyamfi, **Samuel Nii Odai** (2023). Statistical evaluation of Jason-2 satellite altimetry products in a trans-boundary river basin; the case study of the White Volta River basin in Ghana. *Modeling Earth Systems and Environment*. https://doi.org/10.1007/s40808-022-01655-5
7. F. O. Adjei, E. Obuobie, K. A. Adjei, **S. N. Odai** (2022). Evaluation of potential evapotranspiration assessment methods for hydrological modelling with SWAT in the Densu river basin in Ghana. *International Journal of Environmental Science and Technology*. https://doi.org/10.1007/s13762-022-03945-y

8. Awo Boatemaa Manson Incoom, Kwaku Amaning Adjei, **Samuel Nii Odai**, Komlavi Akpoti, Ebenezer Kwadwo Siabi (2022). Impacts of climate change on crop and irrigation water requirement in the Savannah regions of Ghana. *Journal of Water and Climate Change*. https://doi.org/10.2166/wcc.2022.129

9. Joachim Ayiiwe Abungba, Kwaku Amaning Adjei, Charles Gyamfi, **Samuel Nii Odai**, Santosh Murlidhar Pingale, Deepak Khare (2022). Implications of Land Use/Land Cover Changes and Climate Change on Black Volta Basin Future Water Resources in Ghana. *Sustainability*. https://doi.org/10.3390/su141912383

10. Mbayang Thiam, Kwaku Amaning Adjei, Awa Niang, Charles Gyamfi, **Samuel Nii Odai**, Alioune Kane (2022). Modelling the recent variations of water balance components and water availability within the Senegal River basin: using WEAP21 model. *Modeling Earth Systems and Environment*. https://doi.org/10.1007/s40808-022-01420-8

11. Odinakachukwu C. Echeta, Kwaku Amaning Adjei, S. A. Andam-Akorful, Charles Gyamfi, Deborah Darko, **Samuel Nii Odai**, Efiba Vidda Senkyire Kwarteng (2022). Performance Evaluation of Near-Real-Time Satellite Rainfall Estimates over Three Distinct Climatic Zones in Tropical West-Africa. *Environmental Processes*. https://doi.org/10.1007/s40710-022-00613-8

12. Josephine Obodai, Kwaku Amaning Adjei, Albert Ebo Duncan, **Samuel Nii Odai** (2022). Potentially Toxic Elements (PTEs) contamination and ecological risk of sediment in the upper course of the Ankobra River, Ghana. *Environmental Monitoring and Assessment*. https://doi.org/10.1007/s10661-022-10120-w

13. Emmanuel K. Opoku, Kwaku A. Adjei, Charles Gyamfi, Christopher Vuu, Emmanuel K. Appiah-Adjei, **Samuel N. Odai**, Ebenezer K. Siabi (2022). Quantifying and analysing water trade-offs in the water-energy-food nexus: The case of Ghana. *Water-Energy Nexus*. https://doi.org/10.1016/j.wen.2022.06.001

14. Samuel Anim Ofosu, Kwaku A. Adjei, **Samuel Nii Odai** (2021). Assessment of the quality of the Densu river using multicriterial analysis and water quality index. *Applied Water Science*. https://doi.org/10.1007/s13201-021-01516-z

15. Thelma Dede Baddoo, Zhijia Li, **Samuel Nii Odai**, Kenneth Rodolphe Chabi Boni, Isaac Kwesi Nooni, Samuel Ato Andam-Akorful (2021). Comparison of Missing Data Infilling Mechanisms for Recovering a Real-World Single Station Streamflow Observation. *International Journal of Environmental Research and Public Health*. https://doi.org/10.3390/ijerph18168375

16. J.J. Nsiah, C. Gyamfi, G.K. Anornu, **S.N. Odai** (2021). Estimating the spatial distribution of evapotranspiration within the Pra River Basin of Ghana. *Heliyon*. https://doi.org/10.1016/j.heliyon.2021.e06828

17. Sylvester Darko, Kwaku Amaning Adjei, Charles Gyamfi, **Samuel Nii Odai**, Hubert Osei-Wusuansa (2021). Evaluation of RFE Satellite Precipitation and its Use in Streamflow Simulation in Poorly Gauged Basins. *Environmental Processes*. https://doi.org/10.1007/s40710-021-00495-2

18. 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

19. Joachim A. Abungba, Deepak Khare, Santosh M. Pingale, Kwaku A. Adjei, Charles Gyamfi, **Samuel N. Odai** (2020). Assessment of Hydro-climatic Trends and Variability over the Black Volta Basin in Ghana. *Earth Systems and Environment*. https://doi.org/10.1007/s41748-020-00171-9

20. Samuel Anim Ofosu, Kwaku A. Adjei, **Samuel Nii Odai** (2020). Ecological vulnerability of the Densu river Basin due to land use change and climate variability. *Cogent Engineering*. https://doi.org/10.1080/23311916.2020.1735714

21. 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

22. Frederick Yaw Logah, Kwaku Amaning Adjei, Emmanuel Obuobie, Charles Gyamfi, **Samuel Nii Odai** (2020). Evaluation and Comparison of Satellite Rainfall Products in the Black Volta Basin. *Environmental Processes*. https://doi.org/10.1007/s40710-020-00465-0

23. Edward Kofi Ackom, Kwaku Amaning Adjei, **Samuel Nii Odai** (2020). Monitoring land-use and land-cover changes due to extensive urbanization in the Odaw River Basin of Accra, Ghana, 1991–2030. *Modeling Earth Systems and Environment*. https://doi.org/10.1007/s40808-020-00746-5

24. Emmanuel Arthur, Fred Oppong Kyekyeku Anyemedu, Charles Gyamfi, Patricia Asantewaa - Tannor, Kwaku Amaning Adjei, Geophrey Kwame Anornu, **Samuel Nii Odai** (2020). Potential for small hydropower development in the Lower Pra River Basin, Ghana. *Journal of Hydrology Regional Studies*. https://doi.org/10.1016/j.ejrh.2020.100757

25. Awo Boatemaa Manson Incoom, Kwaku Amaning Adjei, **Samuel Nii Odai** (2020). Rainfall variabilities and droughts in the Savannah zone of Ghana from 1960-2015. *Scientific African*. https://doi.org/10.1016/j.sciaf.2020.e00571

26. Edward Kofi Ackom, Kwaku Amaning Adjei, **Samuel Nii Odai** (2020). Spatio-temporal rainfall trend and homogeneity analysis in flood prone area: case study of Odaw river basin-Ghana. *SN Applied Sciences*. https://doi.org/10.1007/s42452-020-03924-3

27. Bernard Appiah, Anubhuti Poudyal, David A. Anum, George Appiah, Andrew Christopher Wesuta, Kofi Akodwaa-Boadi, Ochieng' Ogodo, Esther Nakkazi, Edgar M. Mulogo, **Samuel Nii Odai** (2019). Challenges and facilitators of public engagement with water, sanitation, hygiene and other environmental health issues in Ghana and Uganda: perspectives of scientists, journalists and the public. *Journal of Water Sanitation and Hygiene for Development*. https://doi.org/10.2166/washdev.2019.019

28. Charles Gyamfi, K. Amaning-Adjei, G. K. Anornu, J. M. Ndambuki, **S. N. Odai** (2019). Evolutional characteristics of hydro-meteorological drought studied using standardized indices and wavelet analysis. *Modeling Earth Systems and Environment*. https://doi.org/10.1007/s40808-019-00569-z

29. Gloria C. Okafor, Thompson Annor, **Samuel N. Odai**, Isaac Larbi (2019). Land Use Landcover Change Monitoring and Projection in the Dano Catchment, Southwest Burkina Faso. *International Journal of Advanced Remote Sensing and GIS*. https://doi.org/10.23953/cloud.ijarsg.445

30. G.E. Kifanyi, J.M. Ndambuki, **S.N. Odai**, C. Gyamfi (2019). Quantitative management of groundwater resources in regional aquifers under uncertainty: A retrospective optimization approach. *Groundwater for Sustainable Development*. https://doi.org/10.1016/j.gsd.2019.02.005

31. Gislar E. Kifanyi, Julius M. Ndambuki, **Samuel N. Odai**, Charles Gyamfi (2019). Stochastic Modelling of Great Letaba River Flow Process. *Journal of Geoscience and Environment Protection*. https://doi.org/10.4236/gep.2019.76004

32. Gloria Okafor, Thompson Annor, **Samuel Odai**, Jacob Agyekum (2019). Volta basin precipitation and temperature climatology: evaluation of CORDEX-Africa regional climate model simulations. *Theoretical and Applied Climatology*. https://doi.org/10.1007/s00704-018-2746-4

33. Collins Owusu, K. A. Adjei, **S. N. Odai** (2018). Evaluation of Satellite Rainfall Estimates in the Pra Basin of Ghana. *Environmental Processes*. https://doi.org/10.1007/s40710-018-0344-1

34. Josephine Obodai, Kwaku Amaning Adjei, **Samuel Nii Odai**, Mawuli Lumor (2018). Land use/land cover dynamics using landsat data in a gold mining basin-the Ankobra, Ghana. *Remote Sensing Applications Society and Environment*. https://doi.org/10.1016/j.rsase.2018.10.007

35. 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

36. Deborah Darko, Dennis Trolle, Ruby Asmah, Karsten Bolding, Kwaku A. Adjei, **Samuel N. Odai** (2018). Modeling the impacts of climate change on the thermal and oxygen dynamics of Lake Volta. *Journal of Great Lakes Research*. https://doi.org/10.1016/j.jglr.2018.11.010

37. Deborah Darko, Kwaku A. Adjei, **Samuel N. Odai**, Emmanuel Obuobie, Ruby Asmah, Dennis Trolle (2018). Recent climate trends for the Volta Basin in West Africa. *Weather*. https://doi.org/10.1002/wea.3303

38. Deborah Darko, Kwaku A. Adjei, Emmanuel K. Appiah-Adjei, **Samuel N. Odai**, Emmanuel Obuobie, Ruby Asmah (2018). Simulation of climate characteristics and extremes of the Volta Basin using CCLM and RCA regional climate models. *Theoretical and Applied Climatology*. https://doi.org/10.1007/

s00704-018-2485-6

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. Gislar Kifanyi, Julius Ndambuki, **Samuel Odai** (2016). A Quantitative Groundwater Resource Management under Uncertainty Using a Retrospective Optimization Framework. *Sustainability*. https://doi.org/10.3390/su9010002

41. M. K. Domfeh, F. O. K. Anyemedu, G. K. Anornu, K. A. Adjei, **S. N. Odai** (2016). Assessment of the water balance of the Barekese reservoir in Kumasi, Ghana. *Journal of Science and Technology (Ghana)*. https://doi.org/10.4314/just.v35i3.4

42. Jean Homian Danumah, **Samuel Nii Odai**, Bachir Mahaman Saley, Joerg Szarzynski, Michael Thiel, Adjei Kwaku, Fernand Koffi Kouame, Lucette You Akpa (2016). Flood risk assessment and mapping in Abidjan district using multi-criteria analysis (AHP) model and geoinformation techniques, (cote d'ivoire). *Geoenvironmental Disasters*. https://doi.org/10.1186/s40677-016-0044-y

43. **SN Odai** (2016). Remote Sensing Based Analysis of the Latest Development and Structure of Abidjan District, Cote d'Ivoire. *Geoinfor. Geostat. Overview*. https://scholar.google.com/scholar?cluster=14451053491178891831&hl=en&oi=scholarr

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. **SN Odai** (2015). Heterogeneous farm household perceptions about climate change: a case study of a semi-arid region of Ghana. *The International Journal of Climate Change: Impacts and Responses*. https://search.proquest.com/openview/ad0e53d784b8305b29d7dfb025706501/1?pq-origsite=gscholar&cbl=5528230

46. **SN Odai** (2014). Analysis of Upscaling of irrigation development in the white Volta sub-basin. *Journal of Energy and Natural Resource Management*. http://jenrm.uenr.edu.gh/index.php/uenrjournal/article/view/43

47. Kwaku Amaning Adjei, Liliang Ren, Emmanuel Kwame Appiah-Adjei, **Samuel Nii Odai** (2014). Application of satellite-derived rainfall for hydrological modelling in the data-scarce Black Volta trans-boundary basin. *Hydrology research*. https://doi.org/10.2166/nh.2014.111

48. **SN Odai** (2014). Assessing human resource capacity needs to meet the MDG targets on water and sanitation in Ghana. *Developing Country Studies*. https://www.academia.edu/download/33899041/Assessing_human_resource_capacity_needs_to_meet_the_MDG_targets_on_water_and_sanitation.pdf

49. 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

50. Somuah Junior Tenkorang, **Samuel Nii Odai**, Kwaku Amaning Adjei, Frank Ohene Annor, Sampson Oduro Kwarteng, Kwabena B. Nyarko, Maher O. Abu Madi (2014). Impacts of variable energy prices on the financial sustainability of water facilities: case from Ghana. *International Journal of Water*. https://doi.org/10.1504/ijw.2014.060966

51. 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

52. C Gyamfi, **SN Odai** (2014). Mapping potential areas in the upper west region of Ghana for the implementation of agricultural water management: GIS and remote sensing approach. *J. Dev. Sustain.* https://www.researchgate.net/profile/S-Odai/publication/292121873_Mapping_Potential_Areas_in_the_upper_west_region_of_Ghana_for_the_implementation_of_Agricultural_Water_Management_Intervention

s_GIS_and_Remote_Sensing_Approach/links/56a94b3208aeaeb4cef944e7/Mapping-Potential-Areas-in-the-upper-west-region-of-Ghana-for-the-implementation-of-Agricultural-Water-Management-Interventions-GIS-and-Remote-Sensing-Approach.pdf

53. Paul R Hunter, Samira H Abdelrahman, Prince Antwi-Agyei, Esi Awuah, Sandy Cairncross, Eileen Chappell, Anders Dalsgaard, Jeroen HJ Ensink, Natasha Potgieter, Ingrid Mokgobu, Edward W Muchiri, Edgar Mulogo, Mike van der Es, **Samuel N Odai** (2014). Needs assessment to strengthen capacity in water and sanitation research in Africa: experiences of the African SNOWS consortium. *Health Research Policy and Systems*. https://doi.org/10.1186/1478-4505-12-68

54. **SN Odai** (2014). Success factors for sustainable irrigation development in Sub-Saharan Africa. *African Journal of Agricultural Research*. https://academicjournals.org/journal/AJAR/article-full-text/2CC541349077

55. C Gyamfi, **SN Odai**, GK Anornu (2013). Conflict prevention and resolution mechanisms in water resources management: A perspective from the Black Volta Basin—Ghana. *Int. J. Dev. Sustain*. https://www.researchgate.net/profile/Charles-Gyamfi-5/publication/279512382_Conflict_prevention_and_resolution_mechanisms_in_water_resources_management_A_perspective_from_the_Black_Volta_Basin_-Ghana/links/5593e8b008ae16f493efb5b1/Conflict-prevention-and-resolution-mechanisms-in-water-resources-management-A-perspective-from-the-Black-Volta-Basin-Ghana.pdf

56. **SN Odai** (2013). Environmental impacts of wastewater from urban slums: Case study–old Fadama, Accra. *International Journal of development and sustainability*. https://www.academia.edu/download/61474635/Environmental_impacts_of_wastewater_from_urban_slums20191210-119554-1356cjd.pdf

57. **SN Odai** (2013). Evaluating access to potable water and basic sanitation in Ghana's largest urban slum community: Old Fadama, Accra. *Journal of Environment and Earth Science*. https://www.academia.edu/download/32213151/Evaluating_Access_to_Potable_Water_and_Basic_Sanitation_in_Ghanas_Largest_Urban_Slum_Community-Old_Fadama__Accra.pdf

58. Kwaku Amaning Adjei, Li Liang Ren, Emmanuel Kwame Appiah-Adjei, **Samuel Nii Odai** (2013). The Potential Utilization of Satellite Derived Rainfall in a Data-Scarce Basin. *Advanced materials research*. https://doi.org/10.4028/www.scientific.net/amr.726-731.3531

59. **SN Odai** (2012). A Comparison of TAMSAT satellite rain derived products with meteorologically measured rainfall in the Volta Basin (West Africa). *7th International Conference on Water Sensitive Urban Design*. https://www.researchgate.net/profile/Amos-Tiereyangn-Kabo-Bah/publication/235707969_A_Comparison_of_TAMSAT_satellite_rain_derived_products_with_meteorologically_measured_rainfall_in_the_Volta_Basin_West_Africa/links/58148b3e08aeffbed6bdf689/A-Comparison-of-TAMSAT-satellite-rain-derived-products-with-meteorologically-measured-rainfall-in-the-Volta-Basin-West-Africa.pdf

60. K Nyarko, **S Odai** (2012). Case study 4: Accra and Kumasi, Ghana. *Regulating Water and Sanitation for the Poor*. https://doi.org/10.4324/9781849772310-9

61. **SN Odai**, KA Adjei (2012). Productivity of stored water in small reservoirs for agriculture in the White Volta Basin, Burkina Faso. *Research Journal in Engineering and Applied Sciences*. https://www.researchgate.net/profile/S-Odai/publication/230745558_Productivity_Of_Stored_Water_In_Small_Reservoirs_For_Agriculture_In_The_White_Volta_Basin_Burkina_Faso/links/56a94da508ae7f592f0d7bfa/Productivity-Of-Stored-Water-In-Small-Reservoirs-For-Agriculture-In-The-White-Volta-Basin-Burkina-Faso.pdf

62. P. A. Owusu, **S. N. Odai**, F. O. Annor, K. A. Adjei (2012). Reservoir storage for managing floods in urban areas: a case study of Dzorwulu basin in Accra. *Hydrological Processes*. https://doi.org/10.1002/hyp.9286

63. Edward Matthew Osei Jnr, **Samuel Nii Odai**, Kwaku Amaning Adjei, Edward Matthew Osei, Frank Ohene Annor (2012). Simulation of runoff for the Black Volta Basin using satellite observation data. *International Journal of River Basin Management*. https://doi.org/10.1080/15715124.2012.679735

64. **SN Odai**, KA Adjei (2011). Impacts of Energy Price Changes on the Financial Sustainability of Water Facilities: Case from Ghana. *Works and Housing Ghana: Accra, Ghana*. https://ghanawaterforum.wordpress.com/wp-content/uploads/2012/10/gwf-3-journal-online-

version.pdf#page=209

65. **SN Odai**, KA Adjei (2011). Mapping irrigation potential in a semi-arid region in West Africa. *International Conference on Instrumentation, Measurement, Circuits and Systems (ICIMCS 2011),(ASME Press)*. https://www.academia.edu/download/63400628/Mapping_Irrigation_Potential_in_the_Uppe20200522-5857-mbbeg9.pdf

66. **SN Odai**, KA Adjei (2010). Capacity estimation of small reservoirs using remotely sensed data: case study of a semi arid region of Ghana. *International conference on remote sensing*. https://research.tudelft.nl/en/publications/capacity-estimation-of-small-reservoirs-using-remotely-sensed-dat/

67. E.A. Ofosu, P. van der Zaag, N.C. van de Giesen, **S.N. Odai** (2010). Productivity of irrigation technologies in the White Volta basin. *Physics and Chemistry of the Earth Parts A/B/C*. https://doi.org/10.1016/j.pce.2010.07.005

68. Afua Adwubi, Bright Kofi Amegashie, Wilson Agyei Agyare, Lulseged Tamene, **Samuel Nii Odai**, Charles Quansah, Paul Vlek (2009). Assessing sediment inputs to small reservoirs in Upper East Region, Ghana. *Lakes & Reservoirs Science Policy and Management for Sustainable Use*. https://doi.org/10.1111/j.1440-1770.2009.00410.x

69. S. Oduro-Kwarteng, K. B. Nyarko, **S. N. Odai**, P. Aboagye-Sarfo (2009). Water conservation potential in educational institutions in developing countries: case study of a university campus in Ghana. *Urban Water Journal*. https://doi.org/10.1080/15730620903108975

70. **SN Odai** (2008). Affordable rainwater harvesting systems: a collaborative research effort. *11th International Conference on Urban Drainage, Edinburgh, Scotland, UK*. https://scholar.google.com/scholar?cluster=11575457413493921728&hl=en&oi=scholarr

71. **Samuel Nii Odai** (2008). Cadmium (Cd) and lead (Pb) concentrations effects on yields of some vegetables due to uptake from irrigation water in Ghana. *International Journal of Agricultural Research*. https://www.academia.edu/download/95809892/qredirect.pdf

72. F.O. Annor, N. van de Giesen, J. Liebe, P. van de Zaag, A. Tilmant, **S.N. Odai** (2008). Delineation of small reservoirs using radar imagery in a semi-arid environment: A case study in the upper east region of Ghana. *Physics and Chemistry of the Earth Parts A/B/C*. https://doi.org/10.1016/j.pce.2008.08.005

73. **SN Odai**, KA Adjei (2008). Landsat images for assessment of the impact of land use and land cover changes on the Barekese catchment in Ghana. *European Journal of Scientific Research*. https://www.researchgate.net/profile/Ebenezer-Boakye-2/publication/292566816_Lansat_images_for_assessment_of_the_impact_of_land_use_and_land_cover_changes_on_the_Barekese_catchment_in_Ghana/links/56b9cd8208ae7e3a0fa08a42/Lansat-images-for-assessment-of-the-impact-of-land-use-and-land-cover-changes-on-the-Barekese-catchment-in-Ghana.pdf

74. KB Nyarko, **SN Odai** (2007). Strategies for improving water end-use efficiency on Knust Campus in Kumasi. *Journal of Engineering and Technology*. https://research-repository.uwa.edu.au/en/publications/strategies-for-improving-water-end-use-efficiency-on-knust-campus/

75. **Samuel Nii Odai**, Naritaka Kubo (2007). The Burgers equation model and the monoclinal wave phenomenon in conveyance channels. *Journal of Hydraulic Research*. https://doi.org/10.1080/00221686.2007.9521744

76. **Samuel Nii Odai**, Naritaka Kubo, Kotaro Onizuka, Koji Osato (2006). Analytical Solution of the Burgers Equation for Simulating Translatory Waves in Conveyance Channels. *Journal of Hydraulic Engineering*. https://doi.org/10.1061/(asce)0733-9429(2006)132:2(194)

77. KB Nyarko, **SN Odai** (2006). Optimising social inclusion in urban water supply in Ghana. *Civil Engineering Department, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi*. https://es.ircwash.org/sites/default/files/Nyarko-2007-Optimising.pdf

78. **SN Odai** (2005). Runoff modeling and drain-sizing software–KNUST drain design. *Journal of the Ghana Institution of Engineering*. https://www.ajol.info/index.php/jgie/article/view/42594/29740

79. **SN Odai**, KB Nyarko (2004). KNUST experiences in capacity building in the water and sanitation sector. *Water Resources of Arid Areas: Proceedings of the International Conference on Water Resources of Arid and*

Semi-Arid Regions of Africa, Gaborone, Botswana, 3-6 August 2004. https://books.google.com/books?hl=en&lr=&id=bNJkd8GNBsYC&oi=fnd&pg=PA213&dq=info:mVvUFF2tI8QJ:scholar.google.com&ots=T57s4mxDWc&sig=VQ__2AkJFJxwnKtbTtJ4CFXlg9Y

80. **SN Odai** (2004). Strategic partnerships for sustainable water education and research in developing countries. *Proc. Int. Conf. on Water Resources of Arid and Semi Arid Regions of Africa, Gaborone Botswana, 3–6 August 2004*. https://scholar.google.com/scholar?cluster=17952058194697142984&hl=en&oi=scholarr

81. **SN Odai** (2003). Approximate models for flood routing. *Journal of Science and Technology (Ghana)*. https://www.academia.edu/download/115376897/63387.pdf

82. **SN Odai** (2003). Towards pollution reduction in peri-urban water supply: A case study of Ashanti region in Ghana. *Diffuse Pollution Conference, Dublin*. https://www.researchgate.net/profile/S-Odai/publication/267690876_TOWARDS_POLLUTION_REDUCTION_IN_PERI-URBAN_WATER_SUPPLY_A_CASE_STUDY_OF_ASHANTI_REGION_IN_GHANA/links/559b99eb08ae21086d27ac5c/TOWARDS-POLLUTION-REDUCTION-IN-PERI-URBAN-WATER-SUPPLY-A-CASE-STUDY-OF-ASHANTI-REGION-IN-GHANA.pdf

83. **SN Odai** (2002). PERFORMANCE INDICES FOR EVALUATING NUMERICAL MODELS USED FOR IRRIGATION WATER DELIVERY. *Journal of Science and Technology*. https://webapps.knust.edu.gh/just/index.php?journal=just&page=article&op=view&path%5B%5D=806

84. **SN Odai** (1999). Nonlinear kinematic-wave model for predicting open-channel flow rate. *Journal of Hydraulic Engineering*. https://doi.org/10.1061/(asce)0733-9429(1999)125:8(886

85. **SN Odai** (1998). Burgers' equation model for unsteady flow in open channels. *Journal of Hydraulic Engineering*. https://doi.org/10.1061/(asce)0733-9429(1998)124:5(509

Book chapters 5

1. Josephine Obodai, Albert Ebo Duncan, Kweku Amaning Adjei, **Samuel Nii Odai** (2023). A Preliminary Investigation of Surface and Groundwater Quality Along the Upper Part of the Ankobra River, Impacted by Illegal Mining Activities. *Water Air & Soil Pollution*. https://doi.org/10.1007/s11270-023-06170-6

2. Amevi Acakpovi, Silke Aschmann, Jennifer D. Astwood, Paul Asunda, Beth Axelgard, Israa Azzam, Florence Elizabeth Bacabac, Jeremy W. Bakelar, Gina Catalina Baquero, Elizabeth Barajas, … **Samuel Nii Odai** and 89 others (2023). Proceedings of the 2023 Global Polytechnic Summit, Technology Talent: Advancing a Comprehensive and Global Strategy. *Curiosity Interdisciplinary Journal of Research and Innovation*. https://doi.org/10.36898/001c.84857

3. Jean Homian Danumah, **Samuel Nii Odai**, Mahaman Bachir Saley, Lucette You Akpa, Joerg Szarzynski, Fernand Koffi Kouame (2017). Change and Analysis of Extreme Rainfall Indices During 1960–2010 and 2011–2100 in Abidjan District (Côte d'Ivoire). https://doi.org/10.1007/978-3-319-58214-6_18

4. Jean Homian Danumah, **Samuel Nii Odai**, Mahaman Bachir Saley, Joerg Szarzynski, Kwaku Adjei, Fernand Koffi Kouame (2016). A Stochastic Weather Generator Model for Hydroclimatic Prevision in Urban Floods Risk Assessment in Abidjan District (Cote d'Ivoire). *Climate change management*. https://doi.org/10.1007/978-3-319-25814-0_15

5. **SN Odai** (2008). Preserving the hydrology of urban Ghana through implementing integrated water resources management. *Water and Urban Development Paradigms*. https://books.google.com/books?hl=en&lr=&id=9hBZUdlT8MQC&oi=fnd&pg=PA45&dq=info:MTGwU_RV-3gJ:scholar.google.com&ots=0Aivyx3PHT&sig=VBj9WdHZNgBnA2bZ3oOzBQQccd4

Conference papers 1

1. Annor, F.O., Giesen, Nick van de, **Odai, S.N.**, Barron, Jennie, Kemp-Benedict, Eric (2011). Available data and gaps at basin level and tentatively initial agro-ecological (biophysical) domain analysis. *CGSPace A Repository of Agricultural Research Outputs (Consultative Group for International Agricultural Research)*.

Reports 4

1. KA Adjei, **SN Odai** (2018). The Impacts of Climate Change on the Thermal and Oxygen Dynamics of a Tropical Lake in Ghana, West Africa. *iEMSs*. https://scholarsarchive.byu.edu/iemssconference/2018/Stream-G/9/
2. **SN Odai** (2017). Innovative Sustainable Soil Nutrient Management Options for Improving the Resilience of West African Smallholder Farms Livelihoods Under Climate Change Context. *WASCAL*. http://academia.wascal.org/handle/123456789/200
3. **SN Odai** (2017). Multi-agent simulation approach on the impact of agricultural land-use change adaptation towards the effect of changing climate in semi-arid Ghana. *WASCAL*. http://academia.wascal.org/handle/123456789/192
4. KB Nyarko, **SN Odai** (2008). Water supply coping strategies in Accra. *Loughborough University*. https://repository.lboro.ac.uk/articles/Water_supply_coping_strategies_in_Accra/9597611/files/17237972.pdf