

Popoola, Temidayo Israel

- 📍 Texas Tech University (TTU)
College of Arts and Sciences
Lubbock, Texas, USA
- ✉ tdayo.popoola@gmail.com
- ✉ temidayo.popoola@ttu.edu

Professional Summary

Motivated and passionate meteorologist with a proven track record of academic excellence and over ten years of data-driven research, employing advanced techniques to achieve accurate and reliable results. My experience spans teaching, numerical modeling and prediction, machine learning, and data analysis using Python, ArcGIS, and Google Earth Engine. My research focused on hurricane and flood hazards, housing damage, and community resilience, using geospatial and machine-learning methods. My research has contributed to advancing predictive models for climate variability and extreme events, providing valuable insights for scientific understanding and practical applications in environmental management.

Education

- | | |
|--|-------------|
| <i>Texas Tech University, US</i>
PhD in Land-Use Planning, Management & Design | 2023 - 2028 |
| <i>Federal University of Technology Akure, Nigeria</i>
Master of Technology in Meteorology | 2012 - 2015 |
| <i>Federal University of Technology Akure, Nigeria</i>
Bachelor of Technology in Meteorology | 2006 - 2010 |

Research and Professional Experience

- | | |
|--|-------------|
| Research Assistant , <i>Department of Geoscience, Texas Tech University, Lubbock, Texas, USA</i> | 2023 |
| <ul style="list-style-type: none"> • Modeling flood-related housing damage in the US using tract-level geospatial analysis and interpretable machine learning, with a focus on compound vulnerability—part of a broader, ongoing PhD project expanding to additional cities and flood events. • Researched dust event distribution in the U.S., analyzing meteorological drivers and public health impacts. • Authored a manual for Python codes developed for cleaning and processing US climate data, including dust and PM data, facilitating efficient data management and analysis. • Conducted geospatial analysis on establishing Buffalo Commons in the Great Plains, evaluating population density, farmland value, and federal land using ArcGIS Pro. • Developed a proposal to evaluate regional models for predicting PM2.5 in West Texas, selected for publication support with a partial fee waiver by the Laura Bassi Scholarship Advisory Board | |
| Head Research Unit , <i>WMO Regional Training Centre, Lagos, Nigeria</i> | 2022 |
| <ul style="list-style-type: none"> • Monthly research workshop planning (RTC Workshop) • Workshop paper review and publication • Taught Data Analysis with Python (Forecasters' & Graduate Class) | |
| Research Scientist (Seconded) , <i>Meteorology and Climate Science Unit, Department of Physics, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana</i> | 2021 |
| <ul style="list-style-type: none"> • Conducted research on forcing functions driving West African weather and climate • Conducted research on how to adapt research to training and operational use | |
| Early Career Researcher , <i>GCRF African SWIFT Project, stationed at the Regional Training Centre, NiMet Lagos, Nigeria. Work packages: WP-C1 (Training) & WP-R3-R4 (Satellite Remote Sensing)</i> | 2019 – 2022 |
| <ul style="list-style-type: none"> • Contributed to the development of the Standard of Operation (SOP) used during the high-impact weather forecasting testbed3 workshop held in Nairobi, Kenya • Coordinated the tailoring of SWIFT research outputs to training at RTC and operational use at our aeronautical offices, particularly in Abuja and Lagos Forecast offices | |

Aeronautical Meteorological Forecaster (Shift Leader), Mallam Aminu Kano International Airport, Directorate of Weather Forecasting Services, Nigerian Meteorological Agency, Kano, Nigeria 2025–2014

- Coordinated all-inclusive daily weather chart analysis
- Evaluated and validated daily weather forecast
- Taught junior aeronautical meteorological forecasters how to use and interpret tephigrams, satellite imageries, and model outputs (such as ECMWF, WRF, GFS, etc.)

Policy Engagement and Professional Activities

ASFPM Policy Training Practicum – Capitol Hill Engagement, Washington, DC, US April 2026

- Selected as one of two fellows for the ASFPM–Bill Anderson Fund Policy Training Practicum.
- Engaged with federal staff on floodplain management, disaster risk, and housing resilience
- Translated research on flood risk, exposure, and vulnerability into decision-relevant insights
- Communicated findings from NFIP-based flood loss analysis to support real-world decision contexts

Teaching and Training

Instructor: 2015 – 2023
Climatology, fundamentals in Python, and Numerical Weather Prediction.
Meteorological Research and Training Institute, World Meteorological Organization Regional Training Centre (WMO-RTC), Lagos, Nigeria.

Visiting Lecturer: 2020 – 2021
Urban Climatology, Current weather analysis, and Dynamic Meteorology
Department of Meteorology, Meteorological Institute of Science and Technology, Katsina, Nigeria

Visiting Instructor: May 2019
Atmospheric Thermodynamics and Synoptic Meteorology
Meteorological Training Institute, Yundum, Gambia/United Nations Environmental Project (UNEP).

Additional Qualifications

Distance training course, Numerical Weather Prediction, China Meteorological Administration Training Centre (CMATC), Beijing, China 2022

Distance training school and workshop, Dust Aerosol Detection and Monitoring, jointly organized by EUMETSAT, AEMET, and WMO SDS-WAS Regional Center, Barcelona, Spain 2021

Distance training course, Nowcasting Techniques on Severe Convection Weather, China Meteorological Administration Training Centre (CMATC), Beijing, China 2020

Other Skills and Interests

Computer skills: Machine learning, Python, Climate Data Operator, ArcGIS, and Google Earth Engine

Language: English (mother tongue) and Yoruba (mother tongue)

Awards, Fellowships, and Grants

Empowering Community Resilience Award, National Voluntary Organizations Active in Disaster 2026

ASFPM–BAF Policy Training Practicum Fellow, Association of State Floodplain Managers 2026

Bill Anderson Fund (BAF) Fellow, “Hazards and Disaster Research Fellowship” 2025

HUD Center of Excellence in Capacity-building for Resilient Housing (CECREH) Fellow 2025

Ed and Linda Whitacre Graduate Endowment, Distinguished Graduate Student Award (Texas Tech Uni) 2023

Secondment Grant, Global Challenge Research Fund African SWIFT, GBP 3,304 2021

Member, National Association of Black Geoscientists	2024
Member, American Meteorological Society	2023

Conferences Attended / Presentations

<i>National Voluntary Organizations Active in Disaster Annual Conference, Reno, Nevada, US</i>	May 2026
<i>Bill Anderson Fund Spring Workshop, University of Washington, Seattle, WA, US</i>	Mar 2026
<i>44th Annual Technical Conference of the National Association of Black Geoscientists, Golden, CO, US</i> “Oral Presentation: Modeling Housing Damage from Hurricane Harvey in Harris County.”	Sept 2025
<i>Natural Hazards Research and Applications Workshop, Broomfield, CO, US</i> “Participated in the Researchers Meeting featuring paper sessions, and discussions.”	Jul 2025
<i>2nd Miami Workshop on Aerosol Science and Technology, Miami, FL, US</i> “Poster Presentation: Spatial and temporal distribution of dust events across the US over 20 years	Jan 2024
<i>GCRF African SWIFT Science Meeting, KNUST, Kumasi, Ghana</i> “Oral Presentation: Curriculum review, gaps, weaknesses, and strengths”	Jul – Aug 2019
<i>GCRF African SWIFT Weather Forecast Testbed 1B, Nairobi, Kenya</i> “Oral Presentation: Nowcasting operation procedures”	May 2019
<i>WMO Regional Subtropic Workshop on Severe Weather Forecasting, Lome, Togo</i> “Severe Weather Forecasting and Delivery of Warning Services in West Africa”	Nov 2018
<i>National Conference of the Nigerian Meteorological Society, UNILORIN, Ilorin, Nigeria</i> “Oral Presentation: Heating and Cooling Degree-Days over the Southern States of Nigeria”	Nov 2010

Publications

Roberts A.J., Fletcher J.K., Groves J., Marsham J.H., Parker D.J., Blyth A.M., Adefisan E.A., Ajayi V.O., Barrette R., de Coning E., Dione C., Diop A., Foamouhoue A.K., Gijben M., Hill P.G., Lawal K.A., Mutemi J., Padi M., **Popoola T.I.**, Rípodas P., Stein T.H.M. and Woodhams B.J. (2021): Nowcasting for Africa: advances, potential and value, *Weather* (99) 99. doi.org/10.1002/wea.3936

Fletcher, J.K., Diop, C.A., Adefisan, E., Ahiataku, M., Ansah, S.O., Birch, C.E., Burns, H.L., Clarke, S.J., Gacheru, J., James, T.D., Ngetich Tuikong, C.K., Koros, D., Indasi, V.S., Lamptey, B.L., Lawal, K.A., Parker, D.J., Roberts, A.J., Stein, T., Visman, E., Warner, J., Woodhams, B.J., Youds, L.H., Ajayi, V.O., Bosire, E.N., Cafaro, C., Camara, C., Chanzu, B., Dione, C., Gitau, W., Groves, D., Groves, J., Hill, P.G., Ishiyaku, I., Klein, C.M., Marsham, J.H., Mutai, B.K., Ndiaye, P.N., Osei, M., **Popoola, T.I.**, Talib, J., Taylor, C.M., & Walker, D. (2022). Tropical Africa’s first testbed for high-impact weather forecasting and nowcasting. *Bulletin of the American Meteorological Society*, 1(aop). <https://doi.org/10.1175/BAMS-D-21-0156.1>

Popoola, T.I., & Nwafor, E.C. (2022, September 22). The Role of Numerical Prediction in Weather Forecasting: A Case of Sandstorm in North-Eastern Nigeria. [PowerPoint slides]. Research Gate. https://www.researchgate.net/publication/364351029_The_Role_of_Numerical_Prediction_in_Weather_Forecasting_A_Case_Of_Sandstorm_in_North-Eastern_Nigeria?channel=doi&linkId=634e4a3712cbac6a3ed5acc&showFulltext=true. DOI: 10.13140/RG.2.2.34232.21766

Popoola, T.I. (2022, August 18). Climate Change Assessment over Nigeria using HighResMIP Model: Past, Present & Future Projection. [pdf]. Research Gate. https://www.researchgate.net/publication/363520403_CLIMATE_CHANGE_ASSESSMENT_OVER_NIGERIA_USING_HighResMIP_Model_Past_Present_Future_Projection. DOI: 10.13140/RG.2.2.17896.75526