



The Global Environmental and Occupational Health (GEOHealth) Hub for Eastern Africa

Quarterly Report: September - November 2025

Hub Scholars' US visit

Two of the three scholars (Dr. Otienoh Oguge, University of Nairobi, and Dr. Rahel Argaw, Addis Ababa University) visited the US for their two-week, personally tailored, intensive training session from September 22 to October 3, 2025. During the first week of their two-week immersion experience, the two scholars visited Columbia University. During the second week, Dr. Oguge visited with Dr. Heather Wipfli (GEOHealth Hub co-I) at the University of Maryland, and Dr. Argaw visited with Dr. Jonathan Samet (GEOHealth Hub co-I) at the Colorado School of Public Health. During the two weeks, both scholars met with their mentors and other GEOHealth Hub investigators to work on manuscript writing, participated in a workshop on systematic reviews, had several meetings with other faculty members conducting relevant work, and enjoyed a group dinner.

We also hosted a joint seminar with the Center for Achieving Resilience in Climate and Health (C-ARCH) at Columbia's Mailman School of Public Health on 'Partnerships for Climate Resilience: Solutions Across Sectors at the Global Level' during their visit with two speakers. Dr. Otienoh Oguge spoke about 'Improving Livestock Insurance Trigger Mechanisms and Gender-Responsive Products for Drought-Affected Pastoralists in Kenya' and Mr. Nathaniel Matthews-Trigg, Director of Climate and Disaster Resilience for the America at Americares spoke on 'Academic & Civil Society Partnerships to Advance Climate Adaptation and Resilience'. The seminar was followed by a lunch with the participants.



Climate Week 2025

During Dr. Otienoh Oguge's visit at Columbia University for the Hub Scholar's Program, he gave a presentation at a Climate Week event, entitled Data and Partnerships for Global Clean Air and Climate, sponsored by the Columbia Engineering School. This event highlighted creative and innovative work at the interface of environmental science, engineering, public health, data science, economics, policy, and community engagement. In his presentation on 'Data & Partnerships As A Powerful Clean Air Solution', Dr. Oguge shared how the partnership between the GEOHealth Hub-Kenya team and Nairobi City County Government (NCCG) has been instrumental in building the capacity of city officials to monitor and manage air quality effectively, aligning with Nairobi's environmental goals.



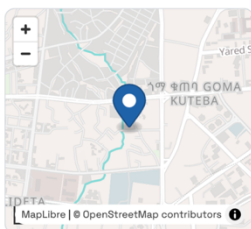
PM_{2.5} data on OpenAQ

We partnered with OpenAQ to make our air quality data publicly available. OpenAQ is a nonprofit organization providing universal access to air quality data to empower a global community of changemakers to solve air inequality—the unequal access to clean air. To date, data on PM_{2.5} concentrations collected using the BAM-1022 reference monitor in Addis Ababa, Ethiopia has been added to OpenAQ. The data is accessible [here](#). We will work on adding data from Kampala, Uganda, and Nairobi, Kenya next.

Addis Ababa, Tikur Anbessa Specialized Hospital (TASH), GEOHealth

Download data

Addis Ababa, Tikur Anbessa Specialized Hospital (TASH), GEOHealth



CHARACTERISTICS

Type	Reference grade
Owner	Stationary
Measures	GEOHealth Hub for Eastern Africa
Instrument(s)	PM2.5 µg/m³
Name	BAM 1022
	Addis Ababa, Tikur Anbessa Specialized Hospital (TASH), GEOHealth
	Updated 2 years ago

LISTS

[Sign up](#) or [login](#) to add this location to a list.

Capacity Building Workshop on IAM & Health Modelling

The International Institute for Applied Systems Analysis (IIASA) organized two events, funded by the Wellcome Trust, in Rio de Janeiro, Brazil, from November 10-13, 2025. One event was a Capacity Building Workshop on Integrated Assessment Modeling (IAM), and the other was on Health Modelling focusing on enhancing research skills related to climate and health equity, particularly for researchers from low- and middle-income countries. Following this, the 18th Annual Meeting of the Integrated Assessment Modeling Consortium (IAMC) took place, which gathered global experts and discussed the latest interdisciplinary advances in integrated assessment modeling. Mr. Dawit Siraw, the Hub Manager from the GEOHealth Hub-Ethiopia team, participated in these events – which proved to be an important opportunity for knowledge exchange in building research capacity, creating connections within the international IAM community, and further advancing integrated climate and health research worldwide.



Pan-African Conference on Environment, Climate Change and Health

Mr. Joshua Nyamondo from the GEOHealth Hub-Kenya team participated in a side event on Pediatric Perspectives for the Pan-African Conference on Environment, Climate Change and Health: Science to Policy on the 23 October 2025 in Nairobi, Kenya. The meeting brought together stakeholders working across clean air and child health. It aimed at learning from Kenya's experience on the intersection between clean air and child health. Present among others were representatives from the Pediatric Association of Nigeria and the Nepal Pediatric Society, who shared insights from their pediatrician-led advocacy work.

Update on GEOHealth-sponsored graduate students

Training opportunities for Cycle II include those at the graduate degree level (both Masters and Doctoral) at each of the three partner institutions in Eastern Africa. Training progress of the current students is detailed below.

UGANDA

Andrew Mubiru (MPH student)

- Thesis title: Assessing the Impact of PM_{2.5} Air Pollution on the Burden of Respiratory Infections: A Case of COVID-19, Tuberculosis, and Severe Acute Respiratory Infections in Kampala City, Uganda
- Andrew defended his research proposal in November 2025 and is waiting to receive IRB approval letters to start data collection

Stephen Kwajja (MPH student)

- Thesis title: The Influence of Seasonal Variation and Meteorological Factors on PM_{2.5} Concentrations and their Association with Upper Respiratory Infections (URIs) in Kampala, Uganda
- Stephen defended his research proposal in November 2025 and is waiting to receive IRB approval letters before he commences data collection and abstraction.

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Update on GEOHealth-sponsored graduate students

ETHIOPIA

Sisay Shine (PhD student)

- Dissertation title: Examining Maternal Exposure to Fine Particulate Matter (PM_{2.5}) and Pregnancy Outcomes in Rural Butajira, Ethiopia
- Sisay submitted a manuscript for publication and finalizing another manuscript for submission to a journal

Dawit Siraw (PhD student)

- Dissertation title: Occupational Heat Stress in the Sugar Estates, Exposure and Health Risks in Ethiopia
- Dawit continued to work on his proposal. He obtained cold-season heat stress data from two sugar estates (Wonji and Metehara) and will collect additional data from the workers using a questionnaire at these sites

Beimnet Fitawek (MPH student)

- Thesis title: Analysis of pattern and trends of hospital admissions from infectious diseases using predictive modeling
- Beimnet defended his thesis in October 2025

Gezehagn Gutema (MPH student)

- Thesis title: Prediction and Comparative Analysis of Heat Stress in Four Sugar Estates of Ethiopia Using Machine Learning
- Gezehagn expects to complete his work and defend it in January 2026

KENYA

Noah Adera (PhD student)

- Dissertation title: Time Series Analysis of Ambient Air Quality and Cause-Specific Hospitalization and Mortality in Nairobi County
- Noah continued to work on data cleaning and analysis

Joshua Nyamondo (MPH student)

- Thesis title: Characterization, Seasonal Variation and Health Risk Assessment of Black Carbon in Nairobi City
- Joshua is continuing data collection by analyzing the BAM filter tapes

Beldine Okoth (MPH student)

- Thesis title: Source Apportionment and the Influence of Urban Heat Island and Meteorological Conditions on Ambient Air Quality in Nairobi City, Kenya
- Beldine is currently taking her second year, first semester as she works on her research proposal

Odiver Dancan (MPH student)

- Thesis title: TBD
- Odiver is currently taking his first-year coursework and has also started to write his research topics in preparation for his thesis

Maurice Kawai (MPH student)

- Thesis title: Monitoring of Particulate Matter (PM_{2.5} and PM₁₀) in Selected Early Childhood Education Centers, Nairobi City County, Kenya
- Maurice is collecting air quality data using installed monitors across selected Early Childhood Education centers in Nairobi City County and began preliminary analysis of the data already collected

Feedback

Please email the Program Coordinator, Haruka Morita, at hm2487@cumc.columbia.edu with questions. For more information on the GEOHealth Hub, please visit our website: <https://geohealth-hub.org/>