

Reflections from the Second (2nd) Accra City Learning Lab



On the 26th and 27th of August 2025, the Cascading Climate and Health Risks in African Cities (CASCADE) team held the 2nd Accra City Learning Lab at the Centre for Climate Change and Sustainability Studies, University of Ghana.

Every year, the CASCADE team brings together partners and stakeholders from South Africa (Johannesburg and Cape Town), Ghana (Accra), Uganda (Kampala), and Zimbabwe (Harare) to share knowledge and co-create solutions addressing climate change-related issues in these cities. Around September last year (2024), the CASCADE team held [Accra's first City Learning Lab](#), welcoming colleagues from across Africa and key stakeholders in Ghana, including Metropolitan, Municipal, and District Assemblies (MMDAs), the Environmental Protection Authority (EPA), the National Disaster Management Organization (NADMO), and the Ghana Meteorological Agency (GMet).

Building on the outcomes of last year's Accra Learning Lab, this year's Learning Lab focused on two pressing issues: **floods** and **heatwaves** in Ghana. Accra is experiencing rising temperatures and more frequent extreme rainfall events, both of which have serious implications for public health and urban resilience. Communities already vulnerable due to inadequate housing, poor drainage, and limited access to health

services often bear the heaviest burdens. Against this backdrop, the Learning Lab served as a platform to share research findings, exchange knowledge, and co-develop solutions tailored to local realities.

Understanding the dual risks

Representatives from NADMO and the EPA shared insights on Accra's multi-hazard risks and future flood scenarios. Speaking on behalf of NADMO, Mr. Bright Elorm Doviavu presented on *"Disaster Management for Floods and Their Impacts in Accra: Gaps and Synergies."* His analysis revealed that Greater Accra, while relatively better equipped to cope with disasters than other regions, remains a hotspot due to its dense population and exposed infrastructure. Key hazard exposures include drought (25%), extreme heat (23%—affecting nearly 7 million people), malaria (15%), and river flooding (3%). Mr. Doviavu emphasized the importance of preparedness and early warning systems, calling for risk reassessment, stronger infrastructure standards, education and simulation exercises, improved evacuation protocols, and better resource mobilization. He further highlighted gaps in Ghana's disaster management framework, such as the absence of a national disaster management plan and legislative instruments, and recommended creating a Legislative Instrument Framework, disaster risk funds, and greater integration of the private sector and gender-responsive approaches.

Following this, Dr. Sovoe from the EPA presented a simulation-based study titled *"Simulating Future Flood Incidence in Accra for Disaster Risk Reduction."* Using rainfall records, satellite imagery, digital elevation models, and participatory GIS, his team modeled flood-prone areas under scenarios ranging from 2-year to 1,000-year return periods. The findings suggest how urbanization, impermeable surfaces, and poor drainage exacerbate flood risks. Simulations revealed that intense, short-duration rainfall rather than total annual rainfall is the main driver of Accra's recurrent floods, and projections up to 2050 show increasing impacts without urgent interventions. By linking water depth to damage estimates, the study made complex scientific results accessible to both policymakers and communities.

Dialogue and shared experiences

Participants shared insights into how residents are already coping with these climate-related stresses. Local voices highlighted the everyday struggles of living in flood-prone neighborhoods and the health costs linked to frequent exposure to heat. Their testimonies suggest the urgent need for interventions that are not only technically sound but also socially inclusive.



The discussions revealed that while government institutions, NGOs, and research bodies are implementing climate adaptation measures, **coordination gaps** remain. For example, drainage projects may not always align with community needs, and heat-related health risks are not fully integrated into urban planning. Stakeholders agreed that greater collaboration and cross-sectoral governance are essential to tackling these interconnected issues.

From research to action

The recurring theme was the importance of **bridging science and policy**. The CASCADE researchers emphasized that heat and flooding cannot be addressed in silos. For instance, extreme rainfall events can increase heat-related impacts by damaging energy infrastructure, thereby reducing access to cooling systems. Similarly, measures to mitigate floods, such as green spaces and improved drainage, can also help reduce urban heat islands if properly designed.

Newsletter Output

As part of the Learning Lab activities, a newsletter was prepared to capture Ghana's historical and ongoing climate challenges. Drawing on discussions about flooding and heat from 1985 to 2025, Mr. Sampson Dordaa drafted the piece, which was recorded by the CASCADE Ghana Postdocs (Dr. Adarkwah, Dr. Kwawu, and Dr. Odoom) together with Interns (Ms. Doreen Lartey and Mr. Sampson Dordaa). Titled "[Extreme Heat and Floods: Mapping Ghana's Climate Risks \(1985-2025\)](#)," the newsletter traced Ghana's

susceptibility to climate-related hazards from the famine and droughts of the early 1980s to the destructive floods and extreme heat of recent years.



It highlighted:

- **1983:** Severe drought and famine led to widespread malnutrition.
- **1985:** Cholera outbreaks and food shortages linked to poor sanitation.
- **1995:** Floods destroyed farmlands and settlements in Accra.
- **2005:** Cholera outbreaks intensified by weak infrastructure and rapid urbanization.
- **2010:** Extreme heat events disrupting schooling.
- **June 3, 2015:** Torrential rain combined with a fuel station explosion killed about 150 people.
- **June 23–24, 2020:** Floodwaters forced the closure of Kaneshie Hospital.
- **2022–2025:** Heatwaves with temperatures consistently above 30°C, heightening health and economic risks.
- **July 2024:** A three-hour downpour destroyed properties across Accra.
- **2024 onwards:** Repeated downpours worsen urban living conditions and cause further destruction.

The 2nd Accra City Learning Lab successfully deepened understanding of how **heat** and **floods** are reshaping Ghana's urban resilience landscape and provided a platform for collective problem-solving. Through panel discussions by representatives from the MMDAS in Accra, technical presentations, and participatory exercises, stakeholders

identified critical governance gaps such as ***weak enforcement*** of land-use regulations, ***fragmented early warning systems***, and ***political interference*** in planning while also co-developing actionable solutions. Key outcomes included renewed calls for ***stronger institutional coordination, improved risk communication tailored to local communities,*** and the ***integration of traditional authorities*** into land-use and enforcement processes. Participants further emphasized the need for ***investments in drainage infrastructure, sustainable waste management, afforestation,*** and ***health system preparedness*** to address both immediate and long-term risks. The Learning Lab emphasized that resilience in Accra cannot be achieved solely through technical interventions, but rather requires ***inclusive governance, shared responsibility,*** and ***community-driven action***. By connecting scientific research with policy dialogue and local experience, the Learning Lab strengthened the foundation for a city-wide climate-health governance framework. As participants reflected, the conversations and strategies developed are not an endpoint but part of a continuing journey. The momentum generated will inform future Learning Labs and, more importantly, guide practical implementation in municipal planning and community-level adaptation. With growing collaboration among institutions, policymakers, and citizens, Accra is taking meaningful steps toward becoming a climate-resilient city that can safeguard both lives and livelihoods in the face of intensifying heat and flooding.

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