

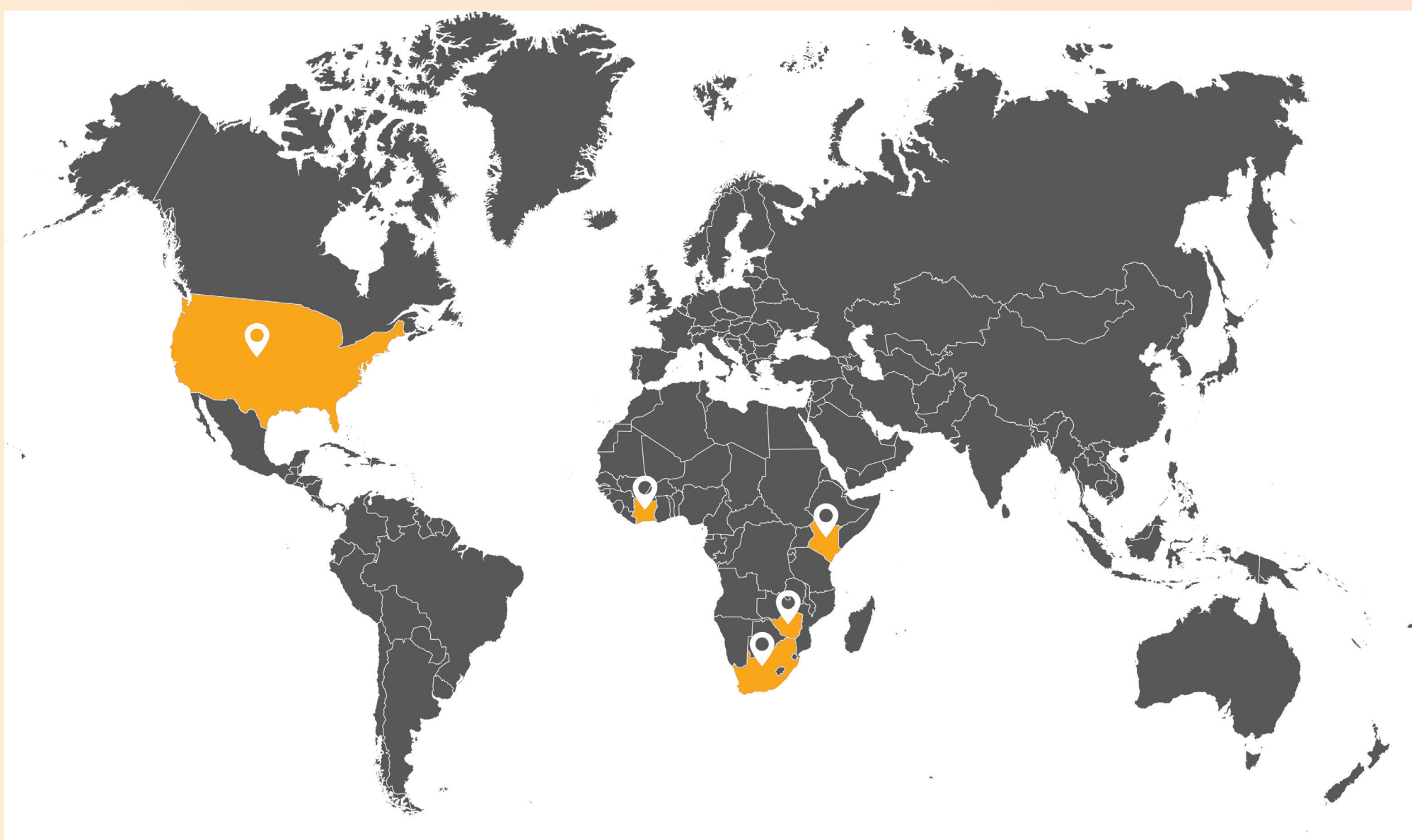


Heat And Health African Transdisciplinary Centre

Developing data science solutions **to mitigate the health impacts of climate change** in Africa.

About the HE²AT Centre

The HEat and HEalth African Transdisciplinary (HE²AT) Center is driving innovative data science solutions to address the health impacts of climate change across Africa. This collaborative research center, funded by the US National Institutes of Health (NIH) through the DS-I Africa program, brings together experts from South Africa, Côte d'Ivoire, Kenya, Zimbabwe, and the USA.



Addressing the Health Impacts of a Warming World

Climate change is one of the most pressing health threats of the 21st century. Periods of extreme heat are becoming more frequent, intense, and prolonged, leading to significant - though often underappreciated - health impacts, particularly in low-income settings. Vulnerable populations are at increased risk, making the need for data-driven solutions more critical than ever.



The steady rise in global temperatures, driven by human activities, has already resulted in serious health outcomes, including increased mortality from heat exposure, cardiovascular issues, adverse pregnancy outcomes, and spikes in infectious diseases such as malaria and dengue. Without significant interventions, the burden on health systems in Africa will continue to grow, underscoring the urgent need for innovative, data-driven approaches to monitor, predict, and address these impacts.

“We have pulled together a remarkable team that has the full range of expertise across disciplines to successfully tackle the project's focus on the relationship between heat exposure, environmental factors, and health outcomes. By combining elements of environmental science, climate studies, data science, and public health, the project will provide a holistic nuanced understanding of the impact of climate change on health in Africa.”

Prof Matthew Chersich, HE²AT Centre PI.

HE²AT works to address these climate-health challenges through three primary goals

1 Serve as regional hub for research & engagement

Act as a central resource for disseminating research, fostering collaboration, and engaging policymakers to shape strategies that enhance African climate-health resilience.

2 Build data science ecosystem & platform

Develop processes and structures to support a comprehensive platform that integrates environmental, biomedical, and demographic data to drive analyses that support an African climate-health research ecosystem.

3 Advance Knowledge Development & Capacity Strengthening

Generate knowledge that informs long-term responses to critical climate-health issues while enhancing the capacity of early-career researchers and key organizations across East and West Africa.

SCAN ME

Stay informed about HE²AT Center research, events, and activities.



Scan the QR code to find out more about our upcoming events.

Funding Acknowledgement

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HE²AT in Action



290

Potential Databases Identified
Expanding research possibilities



42

Studies Confirmed
Strengthening our research base



20

Early-Career Researchers Supported
Building future African leaders



45

Conference Presentations
Contributing essential African climate-health research



4

Pilot Projects Awarded
Advancing climate-health research



5

Stakeholder Workshops Hosted
Engaging stakeholders in Abidjan, Harare, and Gauteng



+150

Stakeholders Reached via Newsletter & LinkedIn
Raising awareness and expanding engagement



8

Articles Published
Contributing valuable knowledge in the African context



110

Datasets Secured
Fueling data-driven insights



20

Presentations Delivered
Engaging with data providers and relevant communities

Empowering Future African Leaders

At the heart of the HE²AT Center's mission is building capacity and nurturing the next generation of African climate-health researchers.

We provide early career researchers with hands-on experience through monthly webinars, brown bag seminars, and access to online training resources. Researchers also benefit from working sessions on data analysis tools and opportunities to attend specialized training programs.

By equipping future leaders with the skills and knowledge to tackle climate-health challenges, we're fostering a more resilient and informed research community.

Our Research

The HE²AT Center focuses on two primary research projects areas to address the health impacts of climate change in Africa: (i) **heat and health surveillance** and (ii) **urban vulnerability and heat mapping**.

These projects use advanced data science methods, including machine learning, to explore the effects of rising temperatures on vulnerable populations, with a particular focus on maternal and child health and urban resilience in African cities.

Key Research Focus Areas

1 Heat & Health Surveillance

By leveraging existing health and climate data, this project investigates how rising temperatures impact maternal and child health in Africa. By combining multiple datasets, this project seeks to identify the links between heat exposure and health outcomes in these vulnerable groups, aiming to understand the broader burden of climate change on maternal and child well-being.

2 Urban Vulnerability & Heat Mapping

Focusing on cities like Abidjan (Ivory Coast) and Johannesburg (South Africa), this project explores how urban living conditions amplify the effects of rising temperatures on public health. Exposure and vulnerability maps are developed to pinpoint areas most at risk, with the intention to support Early Warning Systems to protect the most vulnerable urban communities across Africa.