

M. Thomson: Climate and Public Health - The MERIT Initiative

Many human diseases are climate-sensitive: climate acting as an important driver of spatial and seasonal patterns, year-to-year variations (including epidemics), and longer-term trends. Although climate is only one of the many drivers of both infectious and non-infectious disease, public health policy makers and practitioners are increasingly concerned about the potential impact of climate change on the health of populations. Noticeable changes in average climate are already being observed (and are therefore likely to affect the spatial distribution of some diseases, such as malaria). It is also expected that extreme events that can have devastating socioeconomic, environmental, and health impacts (e.g., floods, droughts, and heat waves) are more likely to occur. Furthermore, where rain-fed agriculture predominates climate is a key driver of food insecurity and thereby under-nutrition - a major contributor to poor health. Climate also impacts on agricultural/livestock pests and diseases providing a further avenue for its impact on food security, food safety and socio-economic development.

In this paper we seek to strengthen the discourse between the broad public health and climate research and practitioner communities to identify opportunities for improved public health outcomes created through targeted research focused on the development and use of tailored climate information for decision-making.

The MERIT initiative was launched in 2007 as a multi-sectoral partnership to provide a platform for enabling health specialists (public health specialists, epidemiologists, immunologists, microbiologists, demographers, etc.) and climate and environment specialists to work together to help solve a pressing health problem. The main objective of the initiative was to address meningococcal meningitis epidemics in Africa in the context of perceived environmental, biological, economic and demographic influences. The effort was designed to create new knowledge that can be used to improve the current, (reactive) and future (proactive) vaccination strategies.

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Madeleine Thomson is a Senior Research Scientist at the International Research Institute for Climate and Society (IRI) with over eight years of service in the management team as director of Impacts Research, chair of the Africa Regional Programme and senior adviser to the PAHO-WHO Collaborating Centre on Early Warning Systems for Malaria and other Climate-Sensitive Diseases. She currently leads the Health portfolio at IRI. She trained originally as a field entomologist and has spent much of her career engaged in operational research in support of large-scale health interventions, mostly in Africa. Her research focuses on the development of new tools for improving climate-sensitive health interventions (e.g., risk-mapping and early warning systems for malaria, onchocerciasis, kala azar, etc).

This work has expanded into airborne infections, and she is a founder and Steering Committee member of MERIT (Meningitis Environmental Risk Information

Technologies), which seeks to support vaccine strategies for meningococcal meningitis epidemics in the African Meningitis Belt in the context of perceived environmental, biological, economic and demographic influences. In recent years she has become increasingly interested in improving institutional and human capacity for incorporating climate information into health planning. In order to help achieve the latter, she is working to create a “health and climate” disciplinary interface and a “climate- smart” public health community.