Climate Information for Public Health Action (CIPHA)

Summer Institute

News from the Ground

February 2009



Adama Alhassane Diallo, Director General of ACMAD and Gilma Mantilla, New York, IRI

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From the Editor

Epidemiologists, health management workers, and health policymakers are increasingly concerned about the potential impact that climate variability and climate change could have on public health. Despite growing awareness however, many public health professionals are not yet aware of the ways that climate information can help them to manage the impacts of climate on health. Indeed, although many health professionals recognize climate as an important determinant of public health, they are not yet fluent in the language of climate information and so it is underused.

This is one reason why organizations such as the International Research Institute for Climate and Society (IRI), the African Centre of Meteorological Application for Development (ACMAD), Columbia University and others have begun to sensitize members of the health sector about the important link that exists between climate and to train them in ways to introduce this type of new data into their analysis so they can better perform their activities. A few organizations are already working to develop strategies to use climate information to improve decisions in public health, but there needs to be more. There is a need to have more institutions to introduce climate and public health into their curricula or as continuing education training for public health workers. However, it is important to keep in mind that we need to work carefully in order to better identify information needs, as well as enable careful use of processing and tailoring tools to improve our understanding and operational use of the relationship between climate and health outcomes.

This edition of the CIPHA Newsletter brings you news of the different ways our Summer Institute alumni are using climate information in the health sector at different levels in several countries. It also brings a new round of interviews. For this issue we had the good fortune to talk with Adama Alhassane Diallo, Director General of ACMAD, who offers his impressions of ways that climate centers can start to develop relationships with the public health sector.

The next CIPHA newsletter will be emailed out at the end of May 2009.

Below we provide selected updates on alumni activities – to be included in the next issue, please send in your own by April 20th!

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Laurence and Tinni at ACMAD, Niamey, Niger

Alumni Updates

Summer Institute 2008 alum Laurence Cibrelus is a French physician working on her Master's of Public Health in Global Health and Epidemiology at the Mailman School of Public Health of Columbia University, NYC.

Laurence did her master's practicum last semester in Niger, where she worked to predict the occurrence of meningitis outbreaks using readily available information about time-varying climate factors such as humidity, dust, and rainfall. This project was developed within the Meningitis Environment Risk Information Technologies (MERIT) which supports meningitis research and control in the African Meningitis Belt that stretches from Senegal to Ethiopia. In her experience working with ACMAD meteorologist **Tinni Halidou Sardou** (also an SI '08 alum) and other climate experts, Laurence found substantial health and satellite climate data available, much more than in the majority of countries in the African Meningitis Belt. She comments, however, that while very high quality satellite-derived data and estimates are easily and readily available at no cost courtesy of the African Centre of Meteorological Application for Development (ACMAD) or the Center for Agriculture, Hydrology and Meteorology (AGRHYMET), obtaining ground data from meteorological stations is a long, expensive and difficult process. Therefore, Laurence finds that the implementation of tools for public-health decision-making or risk assessment using ground data is challenging. Research or decision-making must rely on satellite-derived estimates which mean it is important to know what the products represent, how well they related to ground based measurements and how they can best be used.

The experience of two SI'08 alumni in Niger, **Laurence and Tinni,** is interesting: on the one hand, Laurence, who has a health background, learned how to understand and use climate information and was able to better understand technical issues while dealing with climate specialists; on the other hand, Tinni, who has a meteorological background, was able to understand the health applications of climate information and implemented a useful climate information tool to be used by the public health community.

In the next issue we will share the advances on Laurence's project.

SI '08 alum Wendy Marie Thomas is a meteorologist at the American Meteorological Society's Policy Program (AMS), where she recently convened a multi-disciplinary panel to address researchers at the AMS's annual meeting in January 2009.

According to Wendy, the panelist identified the needs and some avenues for integrating the biological and physical sciences so as to advance public health surveillance and preparedness in the 21st century. The panelists were: John Haynes (Program Manager, NASA), Amy Luers (Program Manager, Google.org), Michael McGeehin (Division Director, CDC), Richard Spinrad (Assistant Administrator, NOAA), and Madeleine Thomson (Senior Research Scientist, IRI). Throughout 2009 the AMS is working on several projects to build understanding and interest within the meteorological community to foster still-needed cross-disciplinary partnerships at the government and academic levels. This ramp-up is also intended to galvanize awareness for environment and health activities at the 2010 Annual Meeting in Atlanta, GA—the home of the Centers for Disease Control and Prevention (CDC). The CDC and AMS are already structuring the plenary and paper sessions to include researchers from both fields and from the national and international arenas.

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Joy Guillemot

***Alumni Updates* cont.**

SI '08 alum Joy Guillemot is an anthropologist and PhD Candidate of Environmental Health Sciences at John Hopkins University, in Baltimore, MD. Joy's research involves a climate and health risk assessment in Madagascar. In collaboration with the World Health Organization (WHO), Joy will assist Madagascar's Ministry of Health in launching a National Strategy for Climate Risk Management of the Health Sector based on the WHO Climate and Health Action Plan for Africa developed last summer. This five-pillar approach will focus on strengthening training and capacity building; climate and health research, monitoring and evaluation; the use of meteorological information; risk communication; and health sector coordination, partnerships, and representation for climate and health.

SI '08 alum Adugna Woyessa is a member of the Climate and Health Working Group in Ethiopia, where he participated in the second MERIT Science Meeting that took place in December 2008. An outcome of this meeting was the creation of MERIT-Ethiopia, a joint effort of the Federal Ministry of Health and the National Meteorological Agency that will focus on intensive research to understand the social and economic impacts of meningococcal meningitis within Ethiopia. Managed by the Climate and Health Working Group (CHWG), MERIT-Ethiopia will work to develop more effective tools to provide earlier warnings and more effective response to this deadly disease**.**

SI '08 alum Louise Kelly-Hope is a researcher at Liverpool School of Tropical Medicine who recently completed a study that examines the distribution of malaria transmission intensity across sub-Saharan Africa, reviews the range of entomological methods used, and explores ecological parameters in selected locations. This information is essential in an era where scaling up of malaria control interventions is ongoing at an unprecedented scale. For more information go to www.malariajournal.com

SI '08 alum Ayanlade Sina is working as a researcher and lecturer in the department of geography at the Obafemi Awolowo University in Ife, Nigeria. Ayanlade writes that the knowledge he gained from the Summer Institute 2008 has really assisted him in his research activities. Recently, he has engaged with a study of National Climate Change Scenarios Development (NCCSD) in Nigeria, with a view to produce a section of the Nigeria Second National Communication (SNC) under the UNFCCC.

SI '08 alumni Peter Omeney (meteorologist**)**, **Adugna Woyessa** (physician), and **Joaquim Da Silva** (physician) participated in and provided organizational support for the Kenya Climate and Health Working Group (CHWG) inaugural meeting held in December 2008. At the meeting, the CHWG established its terms of reference, membership and work plan. There were more than 50 participants representing the Ministry of Public Health and Sanitation, Kenya Meteorological Department, other health and medical institutions, universities, and the media.



Adugna Woyessa and Joaquim Da Silva

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Interview

Gilma Mantilla: Could you tell us about ACMAD in general, the institution, what it is, what its primary mission and responsibilities are, and the vision going forward for the institution?

Adama Alhassane Diallo: ACMAD was created in 1987, by the World Meteorological Organization and it has been located in Niamey since 1992. Its mandate covers 53 countries in Africa. The vision of ACMAD is to become, what we say in French, *le standard d'excellence*, and to achieve the production of climate and meteorological data and information that will be useful for the society. The role of ACMAD is to help countries, especially national weather services, to produce and disseminate good data and information towards several socioeconomic sectors, including agriculture, food security, energy, health, transport, and the environment. ACMAD is going to achieve this goal with its partners, both African and non-African, in order to contribute to the development of Africa.

GM: How can ACMAD help the health community to better use the climate information in their decision-making process?

AD: I think we have at least two or three things to do. First, we need to sensitize them of the importance of the link that exists between climate and their activities and to how, by taking into account climate and meteorological information, they can better perform their activities. Second, we have to train them in how to introduce this type of new data into their package because they have their own health package. We have to think about different types of end users. For example if you take the politicians, they are concerned by strategy. We have to give them enough information in order to allow them to make strategic decisions in a four or five year term. If you think about technicians, you need to think in operational tools that they might use in shorter terms, and they should be able to use to train the end-users in their sector. Finally, we need to bring them to work together with the climate scientist.

GM: How can ACMAD handle the different types of needs from the different end-users?

AD: I think to each user, different information will be given. For the politician, for instance those who are in the parliament, they should be given information on how climate and meteorological information contribute to development and on how to improve their programs. If you think about a technician, they have to know this aspect, but they have to know how to technically use the data that they have to use in their package. They have to be trained about this in order for them to talk with the end-users and to give them some guidelines for how they have to go with their activities, taking into account the climate and meteorological information.

If you talk about the end-users, sometimes you are told that they want to know if it is going to rain or not. This information allows them to make decisions, for instance, if farmers are able to plant or not to plant. If you can provide them information concerning the amount of rainfall for the rain season, for instance, if you tell them the rain season will be moist, they know the relationship between fertilizer and water and the yield of crop production, so they can modulate the amount of fertilizer they are going to buy and to put on their crops, and they can choose which crop to plant because of the income they expect to get. So, in short, you have to give specific information depending on the end-user you are talking with.

GM: You might know about the Climate and Health Working Groups in Ethiopia and Kenya. What is your impression of this initiative?

AD: I think it is a very good way to tackle the health problems and to allow the meteorologists, the climatologists and the health workers to work together and to develop tools that can protect the population from outbreaks or epidemics. I feel that the CHWG is the best way to demonstrate that climatologists, meteorologists, and people from the health sector need each other to tackle the different problems of health, and to organize themselves to find a way that they can develop tools to contribute to improving the health of the population. If they do this exercise, I think, it will be an incentive for them to continue because they are all supposed to contribute to the development of the population. They are part of the public health community and they need to use their knowledge to improve the public health of their countries.

GM: Do you know something about the MERIT Project?

AD: Yes, we are going to be working on this. I participated at the last MERIT meeting in Addis Ababa, and there we talked about the opportunity to host the upcoming MERIT meeting in partnership with CERMES, in Niamey in October of this year.

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Upcoming Training Courses

Summer Institute: Climate Information for Public Health Lamont-Doherty Campus in Palisades, New York, USA, June 2-12, 2009

This two-week training course offers public health decision-makers the opportunity to learn practical methods for integrating climate knowledge and information into decision-making processes.

Introduction to Infectious Disease Modeling and its Applications, London, UK, July 6-17 2009

This two-week intensive course is intended to introduce professionals working on infectious diseases in human or animal populations to this exciting and expanding area. The emphasis will be on developing a conceptual understanding of the basic methods and on their practical application, rather than the manipulation of mathematical equations. Further details about the course content are available at: http://www.lshtm.ac.uk/ideu/courses/appl_form.pdf

The 9th International Regional Spectral Model (RSM) Workshop, Maui, Hawaii, August 3-7, 2009

The course will focus on hands-on practice running the models in various configurations, as well as on the application of RSM to seasonal forecast. More information at: http://ecpc.ucsd.edu/projects/G-RSM

Upcoming Events

3rd East African Health and Scientific Conference, Nairobi, Kenya, March 25-27, 2009

Theme: "Climate Change, Environment and Health." Hosted by Kenya Medical Research Institute (KEMRI).

12th World Congress on Public Health, Istanbul, Turkey, April 27- May 1, 2009

Organized by the World Federation of Public Health Associations (WFPHA) (www.wfpha.org) and hosted by the Turkish Public Health Association (TPHA) (www.t-hasak.org), the congress theme is "Making a Difference in Global Public Health: Education, Research, and Practice." For more information, please see . http://www.worldpublichealth2009.org/solutionpartner.pdf

6th European Congress on Tropical Medicine and International Health Verona, Italy, September 6-10, 2009

Besides dealing with the classical aspects of tropical medicine, including basic science, diagnostics, and disease control, the congress will maintain a constant and central focus on its main theme: "Equity, Human Rights and Access to Care." The congress is interested to discuss how evidence obtained from research is transferred/not transferred into actual policy and practice. For further information go to http://www.festmih.org/verona2009/

Pan African Malaria Conference, Nairobi, Kenya, November 2-6, 2009

The Multilateral Initiative on Malaria (MIM) was established in 1997 with a mission to strengthen and sustain through collaborative research and training, the capacity of malaria-endemic countries in Africa to carry out research that is required to develop and improve tools for malaria control and to strengthen the research-control interphase. The Pan-African Conference (PAC) which is supported by the MIM is open to all malaria researchers and control experts from malaria endemic countries in Africa, Asia, and Latin America and the Caribbean, as well as malaria researchers, science administrators, and representatives from private foundations, governments and international organizations throughout the world. More information is available at: http://www.mimalaria.org/eng/mmac2009.asp

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Recent Publications

The role of ENSO in understanding changes in Colombia's annual malaria burden by region, 1960-2006
Gilma Mantilla, Hugo Oliveros, Anthony G Barnston. *Malaria Journal* 2009

Regional differentiation in the role of ENSO in understanding changes in Colombia's annual malaria burden during 1960-2006 was found, constituting a new approach to use ENSO as a significant predictor of the malaria cases in Colombia. These results naturally point to additional needed work: (1) refining the regional and seasonal dependence of climate on the ENSO state, and of malaria on the climate variables; (2) incorporating ENSO-related climate variability into dynamic malaria models.

Costs of early detection systems for epidemic malaria in highland areas of Kenya and Uganda
Dirk H Mueller, Tarekegn A Abeku, Michael Okia, Beth Rapuoda, Jonathan Cox. *Malaria Journal* 2009

An analysis of the cost to the public health system of an early detection system of malaria epidemics in Kenya and Uganda. It includes a sensitivity analysis and presentation of potentials for cost reductions, based on a sound, state-of-the art analysis.

Malaria transmission in two localities in north-western Argentina
Maria J Dantur Juri, Mario Zaidenberg, Guillermo L Claps, Mirta Santana, Walter R Almiron. *Malaria Journal* 2009.

Ecological aspects of the malaria vector *Anopheles pseudopunctipennis* and the relationship with climatic variables, as well as the seasonality of malaria cases, were studied in two localities in northwestern Argentina.

Development, Malaria and Adaptation to Climate Change: A Case Study from India
Amit Garg ,R. C. Dhiman, Sumana Bhattacharya P. R. Shukla. *Environmental Management*, December 2008

This article integrates climate change and developmental variables in articulating a framework for integrated impact assessment and adaptation responses, with malaria incidence in India as a case study. The study concludes that well crafted and well managed developmental policies could result in enhanced resilience of communities and systems, and in lower health impacts due to climate change.

Related Links

http://www.cermes.net/cermes

http://www.acmad.ne/

http://www.agrhymet.ne/eng/centre.htm

http://iri.columbia.edu/education/summerinstitute09

http://malariajournal.com

http://www.mimalaria.org/eng/mmac2009.asp

Please contact cipha@iri.columbia.edu to send your comments or materials to be included in the next CIPHA. **The deadline to send material is April 20th 2009.**