**Climate Information for Public Health Action (CIPHA)**

**Summer Institute**

**News from the Ground**

**August 2010**

**Vol. 2 Issue 4**



*Residents from the Nigeria FELTP (in white t-shirts) carry out an investigation during a cholera outbreak in Nigeria (Source: AFENET).*

## *In this Issue*


| | |
|---|---|
| From the Editors | 1 |
| Updates | 2 |
| Survey | 3 |
| Upcoming Training Courses | 4 |
| Upcoming Events | 4 |
| Recent Publications | 5 |
| Related Links | 6 |
| Contact Information | 6 |
| Internet Citation | 6 |


This newsletter provides updates on the latest developments within the CIPHA network, including the activities of alumni and facilitators, brief meeting reports, news from the health and climate community, and opportunities for collaboration.

## *From the Editors*

Since 2008, the central mandate of the CIPHA network has been to use joint programs, institutional frameworks, and training and research activities to develop life-saving partnerships across the public health and climate community. In this issue we would like to highlight the outgrowth of one such partnership. As of next month, the African Field Epidemiology Network (AFENET), in partnership with the International Research Institute on Climate and Society (IRI), will begin incorporating climate issues into their public health training in Africa.

The people of Africa will suffer from the negative impacts of climate change, with the poorest and most vulnerable most affected. Africans will become increasingly vulnerable to food insecurity, water scarcity, and ill health, among other things, making it difficult for most African countries to achieve the Millennium Development Goals. The health consequences of climate change may include an increase in the number of infectious disease outbreaks such as malaria, meningitis, Rift Valley fever, cholera, and dengue, which will further burden Africa's vulnerable health systems and population.

Empowering health professionals and decision makers to utilize weather and climate-related information as well as knowledge of best coping strategies may go a long way in addressing these looming challenges.

Against this background, AFENET seeks to integrate a climate-and-health component into its Field Epidemiology and Laboratory Training Programs (FELTPs). AFENET will do this through collaboration with the IRI at the Earth Institute, Columbia University, which has extensive expertise and experience in this area. This partnership aims to enhance the capacity of African countries to better understand, anticipate, prevent and manage health emergencies through enhanced applied climate risk management.

To aid the partnership, robust tools have been developed to use climate information to forecast droughts, floods and other conditions that predispose to public health emergencies. The greatest use of climate information has been, so far, in the agricultural sector. The use of these tools for public health action in Africa is long overdue given the burden of climate-sensitive infectious diseases, many with epidemic potential. Training epidemiologists and other public health professionals – as well as their colleagues in the meteorological community – in the use of climate information for forecasting health emergencies will serve transforming the way the health sector

in Africa deals with epidemics – moving away from crisis management toward prevention. Where prevention is not possible, public health practioners will be better prepared to react and contain outbreaks.

AFENET and IRI plan to pilot a short course on Climate Information for Public Health (CIPH) in the Kenya and Ethiopia Field Epidemiology and Laboratory Training Programs this year. This will inform the process of integrating climate information into the FELTP curricula. Integration of a climate component into the FELTP curriculum will train public health experts who are able to use climate information in public health decision-making, to predict and manage the effects of climate change on in Africa.

## *Updates*

### Alumni



*Participants to SI10 (Source: IRI)*

We were delighted to welcome thirteen professionals from ten countries in the Americas, Asia and Africa who participated in the 2010 Summer Institute on Climate Information for Public Health (SI 10) to join the community of the SI alumni. They hailed from Ethiopia (4), Kenya (1), Uganda (1), Burkina Faso (1), Niger (1), Tunisia (1), India (1), China (1), Nigeria (1) and the United States (1). This expands our alumni network and those who contribute news items and participate in the dissemination of CIPHA to 38! For more information about our alumni please take a look at the Summer Institute on Climate Information for Public Health, Participant Map, available online at: http://tinyurl.com/32lmkoe. Additionally, the 2010 Summer Institute on Climate Information for Public Health Final Report is now available online at http://iri.columbia.edu/publications/id=1011. The Appendixes to this report will be available shortly from a separate link.

**SI 09 alumna Rachel Lowe**, University of Exeter, School of Engineering, Mathematics and Physical Sciences. A recent paper on spatio-temporal modeling of dengue in Brazil is now available online: Lowe, R., et al., Spatio-temporal modeling of climate-sensitive disease risk: Towards an early warning system for dengue in Brazil. Computers and Geosciences (2010),doi:10.1016/j.cageo.2010.01.008, which is available from: http://tinyurl.com/34lb96k. On 16-17 August 2010, Rachel attended a workshop on climate and vector-borne diseases at Fiocruz, Rio de Janeiro, Brazil, as part of the newly established Fiocruz-INPE climate and health observatory. She presented in a session entitled "modeling data for vector-borne diseases.

### Facilitators

**SI 08-10 Facilitator Gilma Mantilla** represented the IRI at a National Oceanic and Atmospheric Administration (NOAA) and World Health Organization (WHO) collaboration discussion held in Washington, DC, USA on June 6th, 2010. The occasion brought NOAA technical staff together with Dr. Rifat Hossain, statistician and lead for WHO Global Information Management System, Water Sanitation Hygiene and Health, and Public Health and Environment. Gilma reports there was an exchange of presentations reflecting the two entities' program goals, capacities, needs and resources, and then a discussion to identify areas of collaboration in protecting public health and reducing water-borne public health risks. Gilma participated in the meeting, providing technical support for the NOAA presentation on "Health-related Activities and Oceans and Human Health Program" which also featured IRI's health-related work on early warning systems and training activities both at IRI and at IRI partner sites.

**The Ethiopia's Climate and Health Working Group (CHWG),** in collaboration with the WHO, the World Meteorological Organization (WMO) and the IRI, organized a workshop to discuss implementation of a project funded by the Korea International Cooperation Agency (KOICA). John del

Corral and Tufa Dinku represented the IRI at the workshop for climate and health stakeholders. John delivered a presentation on the IRI Data Library and its use, and on links to the Open Health Mapper, a data management and mapping platform developed by the WHO for public health practitioners which will be used by Ethiopia's CHWG. SI 10 alumna Abenet Girma and SI 10 facilitator Richard Luce were involved in this exciting initiative.

Furthermore, the CHWG of Ethiopia just released the second issue of its newsletter, which aims to highlight the subject of adaptation to climate variability and change with reference to health. If you are interested to know more about his issue please send an email to chwg.ama@gmail.com.

## ***Survey***

Having recently passed its second anniversary, the CIPHA Newsletter Team felt it was time to assess the overall effectiveness of the newsletter and to make adjustments where needed. Accordingly, a survey was designed and analyzed by Scott Wood, a recent graduate from Climate and Society Master's Program at Columbia University, who was part of this year's CIPHA team.

Specifically, the survey seeks basic information on reader demographics, newsletter content preferences, subscriber involvement in newsletter content development, applied use of newsletter information, newsletter design, and general opinions and suggestions for improvement. The outcomes of the study will be incorporated into the development of the CIPHA Newsletter where applicable.

An 11-question online survey was developed, using surveymonkey.com and widely distributed to the CIPHA network via email. Question-types ranged from multiple-choice to open-ended comment formats. Questions were as follows:

- **Question 1:** Are you an Alumnus/Alumna of the IRI's Summer Institute or a related regional training? If No, please indicate your affiliation with the IRI.
- **Question 2:** Do you read each CIPHA Newsletter?
- **Question 3:** Which sections are you most likely to read?
- **Question 4:** Do you think that the CIPHA Newsletter effectively serves the purpose of supporting the CIPH Alumni Network? If No, how would you like to see this improved?
- **Question 5:** Have you ever contributed an article to a CIPHA Newsletter? If No, why not?
- **Question 6:** Have you ever used information from a CIPHA Newsletter in any documents or training materials? If Yes, please elaborate.
- **Question 7:** Currently, CIPHA Newsletters are published every 3 months. Would you prefer that newsletters be published more frequently, less frequently, or no change – 3 months is ideal?
- **Question 8:** Do you feel that the content of CIPHA Newsletters could be improved with regard to your understanding of the latest developments in climate and health? If Yes, how could we improve this?
- **Question 9:** Is there anything about the current design of CIPHA Newsletters that you would like to see change? If Yes, please elaborate.
- **Question 10:** Are there other ways in which you feel CIPHA Newsletters can be improved? If Yes, please elaborate.
- **Question 11:** Please provide any additional comments below.

Forty surveys were completed. Results found that roughly 2/3 of respondents were alumni of the IRI's Summer Institute or a related regional training. Others included applicants to the Summer Institute 2010, IRI- and non-IRI-collaborators, and various professionals. The vast majority (82.5%) of respondents read each CIPHA Newsletter. The two most popular newsletter sections that respondents indicated most likely to read were the *Publications* and *Editorial* sections, followed by *Upcoming Events*, *News on Summer Institute Alumni/Facilitators*, and *Upcoming Courses*.

Most respondents (87.5%) indicated that the CIPHA Newsletter effectively serves the purpose of supporting the CIPH Alumni Network, and 77.5% of respondents have contributed an article to a CIPHA Newsletter. Those who have not done so indicated having a lack of relevant material to contribute, that they had never been asked to do so, or that

they are new to the newsletter or simply do not have time. Sixty five percent of respondents have used information from the CIPHA Newsletter in some form. These people indicated having used this information for teaching post-graduate courses, incorporating relevant information into reports, and for developing research proposals. The majority of respondents (67.5%) were satisfied with the frequency of CIPHA Newsletter publications, with 27.5% preferring more frequent newsletters and 5% indicating less frequent newsletters.

Most respondents (65%) felt that the content of CIPHA Newsletters could be improved with regard to understanding the latest developments in climate and health. Suggestions on how to improve such content included the following:

- Include abstracts of research papers/new programs launched internationally to address the threat of climate change on public health
- Add more information on where to find assistance in answering climate/health-related questions
- Include more elaborate articles, including those on improving integrated science
- Include more scientific diversity of opinion
- Add information on new opportunities in funding and research, including a section dedicated to seeking collaboration, funding, and volunteers
- Include information on best practices of climate and public health activities
- Add a Career Information section

The majority of respondents (82.5%) were happy with the current design of CIPHA Newsletters but they did suggest improvements such as adding interviews with policy/decision-makers, including a more clear invitation for external newsletter contribution, and inviting IRI scientists and collaborators to contribute in the foreword/scientific findings sections.

## *Upcoming Training Courses*

**Austral Summer Institute XI (ASI XI).** From Tsunamis to Water Pathogens: Understanding Ocean Hazards in the XXI Century. Concepcion, Chile. January 2011

This course is organized by the Oceanography Department and the Oceanographic Research Center of University of Concepción. More info available:
http://www.udec.cl/oceanoudec/oceanografia

**Climate Change and Health – Research Methods**. Umeå University, Umeå, Sweden. June 6 -17, 2011

The challenge of developing and adapting scientific methods for the specific requirements of research on the nexus of climate change and health is the focus of this course. These challenges include techniques for attribution of risk/cause and effect, dealing with uncertainty and unusually large temporal and spatial scales, working with multi- sectorial datasets (e.g. meteorology, physical geography, agriculture and health) as well as using longitudinal data sets, both retrospectively and prospectively. More info available online at:
http://www.climateandhealth.net/static/en/31/

## *Upcoming Events*

**International Workshop on ENSO, Decadal Variability and Climate Change in South America: "Trends, Teleconnections and Potential Impacts"** Guayaquil, Ecuador. October 12th – 14th of 2010

The El Niño-Southern Oscillation (ENSO) has a profound influence on South American climate. For example, during an El Niño, rainfall tends to increase over Ecuador and decrease over Colombia. However, the El Niño events that occurred during 2002-2003 and 2006-2007 were different. They did not result in impacts that might have been expected based on our past experiences. The reasons for the differences seen in South America and in other parts of the world are not fully understood, but are the subject of intense research in many countries. This workshop will bring climate experts from around the world to discuss this research and its relevance to South American climate. More info available from:
http://tinyurl.com/2aaqcm8

**Evaluation of Reanalyses – Developing an Integrated Earth System Analysis (IESA) Capability. Baltimore, Maryland. November 1-3, 2010,**

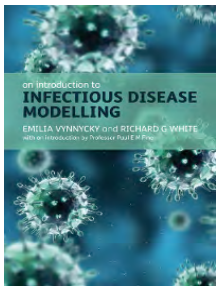
Retrospective analyses, or reanalyses, comprise the combination of state-of-the-art models and assimilation methods with highly quality-controlled observations, yielding globally continuous data with supporting output diagnostics produced from the model physical parameterizations. Presently, new atmospheric, oceanic and land analyses are becoming available from National Aeronautics and Space Administration (NASA), NOAA, and other institutions.

This workshop aims to promote the understanding and assessment of current trends and to discuss future directions. It is intended to bring together reanalysis developers and reanalysis users, and also to bring together various discipline specific analysis systems.

Additional Information:
http://www.usclivar.org/Reanalysis2010.php

## *Recent Publications*

**Infectious Disease Modeling**. Vynnycky E. and White R. G. Oxford University Press. May 2010.




This book will provide public health and infectious disease researchers with the tools to use and critically evaluate the mathematical models that are increasingly being used to interpret and predict the dynamics and control of infectious diseases.

The book is based on material from popular courses developed by the authors over many years. It will be of interest to epidemiologists, public health researchers, policy makers, veterinary scientists, medical statisticians, health economists, infectious disease researchers, applied mathematicians, climate professionals, and those generally interested in mathematical modeling or infectious diseases.

More info available:
http://anintroductiontoinfectiousdiseasemodelling.com/

**An Environmental Watch System for the Andean Countries: *El Observatorio Andino***. Muñoz Angel, Lopez Patricio , Velázquez Ramon, Monterrey Luis, León Gloria, Ruiz Franklin, Recalde Cristina, et al . Bulletin of the American Meteorological Society 2010; e-View

An experimental Environmental Watch System, the so-called Observatorio Andino (OA), has been implemented in Venezuela, Colombia, Ecuador, Peru, Bolivia, and Chile over the past two years. The OA is a collaborative and regional network that aims to monitor several environmental variables and develop accurate forecasts based on different scientific tools. Its overall goal is to improve risk assessments, set up early warning systems, support decision-making processes, and provide easily and intuitively understandable spatial maps to end-users.

More info available:
http://journals.ametsoc.org/doi/abs/10.1175/2010BAMS2958.1

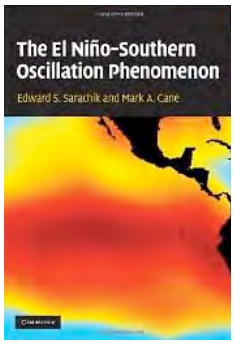
**Managing the Health Effects of Climate Change**. Anthony Costello, Mustafa Abbas, Adriana Allen, Sarah Ball, Sarah Bell, Richard Bellamy, Sharon Friel, Nora Groce, Anne Johnson, Maria Kett, Maria Lee, Caren Levy. Lancet and University College London Institute for Global Health Commission. Lancet 2009; 373: 1693–733

In this report, the authors outlined the major threats—both direct and indirect—to global health from climate change through changing patterns of disease, water and food insecurity, vulnerable shelter and human settlements, extreme climatic events, and population growth and migration.

The authors discuss how management of the health effects of climate change will require inputs from all sectors of government and civil society, collaboration between many academic disciplines, and new ways of international cooperation that have hitherto eluded us. Involvement of local communities in monitoring, discussing, advocating, and assisting with the process of adaptation will be crucial.

Available online PDF at: http://bit.ly/aiPyOQ

**The El Niño-Southern Oscillation Phenomenon**. Edward S. Sarachik and Mark A. Cane. Cambridge University Press. March 2010.




Many climatic extremes around the globe, such as severe droughts and floods and their associated poor public health outcomes, can be attributed to the periodic warming of the equatorial Pacific sea surface, termed the El Niño Southern Oscillation or ENSO. Advances in our understanding of ENSO - in which Edward Sarachik and Mark Cane - have been key participants, have led to marked improvements in our ability to predict its development months or seasons ahead, allowing adaptation to global impacts. The book introduces basic concepts and builds to more detailed theoretical treatments. Chapters on the structure and dynamics of the tropical ocean and atmosphere place ENSO in a broader observational and theoretical context. Chapters on ENSO prediction, past and future, and its impacts introduce broader implications of the phenomenon. This book provides an introduction to all aspects of this most important mode of global climate variability, for research workers and students of all levels in climate science, oceanography and related fields. More at: http://tinyurl.com/2a7sbfy

## Related Links

http://www.afenet.net/english/about.php
http://www.cdc.gov/globalhealth/FETP/
http://www.mrcindia.org/scientist.htm
http://www.exeter.ac.uk/departments/

## Contact Information

Please contact cipha@iri.columbia.edu to send your comments or materials to be included in the next CIPHA newsletter. **The deadline for documents to be included in the next issue is October 20th, 2010.**

If you have questions about IRI activities, please visit our Home Page: http://portal.iri.columbia.edu/portal/server.pt

## Internet Citation

*CIPHA Newsletter*, August 2010, Vol.2 Issue 4. International Research Institute for Climate and Society, The Earth Institute at Columbia University, Palisades, NY.

Available from: http://iri.columbia.edu/education/ciphnews

**Editorial Board**
Laurence Cibrelus, IRI
Gilma Mantilla, IRI
Madeleine Thomson, IRI

**Editing**
Cathy Green, IRI

**Web Staff**
Baaba Baiden, IRI
Jeffrey Turmelle, IRI